Apr. 2010's Edition of The “Nissui” Product Catalogue

NISSUI

No.1 in media market share of Japan.
(p.24, Market of Food Inspection 2009, Fuji Keizai Co., Ltd.)

NISSUI PHARMACEUTICAL CO., LTD.

Cat. Koh 5497

Index

Dehydrate Media

Salmonella

05006 SBG Broth Base *"Nissui"* 1-1
05002 EEM Broth *"Nissui"* 1-2
05009 Selenite Cystine Broth Base *"Nissui"* 1-3
05132 Tetrathionate Broth (TT) *"Nissui"* 1-4
05130 Rappaport-Vassiliadis Broth (RV) *"Nissui"* 1-5
05131 Buffered Peptone Water (BPW) *"Nissui"* 1-6

Enterobacteria Separation

05025 SSB Agar *"Nissui"*
05024 SSB Agar *"Nissui"* 2-1
05032 SS Agar with Sucrose *"Nissui"*
05033 SS Agar with Sucrose *"Nissui"* 2-2
05021 SS Agar *"Nissui"*
05020 SS Agar *"Nissui"* 2-3
05040 DHL Agar *"Nissui"* 2-4
05042 BTB Lactose Agar *"Nissui"* 2-5
05037 MacConkey Agar *"Nissui"* 2-6
05103 TSI Agar *"Nissui"* 2-7
05140 X-SAL Agar *"Nissui"* 2-8
05041 MLCB Agar *"Nissui"* 2-9

Enterobacteria Confirmation, Differentation and Identification

05104 LIM Agar *"Nissui"* 3-1
05106 SIM Agar *"Nissui"* 3-2
05148 DNA Agar *"Nissui"* 3-3
05111 SC Agar *"Nissui"* 3-4
05107 VP-MR Medium *"Nissui"* 3-5
05182 ONPG Disk *"Nissui"* 3-6
05180 Cytochrome Oxidase Test Strip *"Nissui"* 3-7
06626 ID Test・EB-20 *"Nissui"*
06615 ID Test・EB-20 *"Nissui"* EB Plate
06616 ID Test・EB-20 *"Nissui"* EB Broth
06628 ID Test・EB-20 *"Nissui"* EB Reagent 3-8

NISSUI PHARMACEUTICAL CO., LTD.

Index

Dehydrate Media

Enterobacteria Confirmation, Differentation and Identification

06673 ID Test・EB-9 *"Nissui"*
06671 ID Test・EB-9 *"Nissui"* EB9 Reagent 3-9
06608 Sterilized Oil Paraffin *"Nissui"* 3-10
08720 Quick ID GN *"Nissui"*
08721 Quick ID GN *"Nissui"* Reagent 3-11

Vibrio parahaemolyticus, cholera

05215 Salt Polymyxin Broth *"Nissui"* 4-1
05206 Alkaline Peptone Water *"Nissui"* 4-2
05201 Vibrio Agar *"Nissui"* 4-3
05208 PMT Agar Base *"Nissui"* 4-4
05204 Thiosulfate citrate bile Saccharose Agar *"Nissui"* 4-5
05135 X-VP Agar *"Nissui"* 4-6

Non-fermentative Gram-negative rod

05220 NAC Agar *"Nissui"* 5-1
05221 Cetrimide Agar *"Nissui"* 5-2
06629 ID Test・NF-18 *"Nissui"*
06617 ID Test・NF-18 *"Nissui"* NF Plate
06618 ID Test・NF-18 *"Nissui"* NF Broth
06631 ID Test・NF-18 *"Nissui"* NF Reagent 5-3

Staphylococci

05234 Staphylococcus Medium No. 110 *"Nissui"* 6-1
05236 Mannitol Salt Agar *"Nissui"* 6-2
05246 PEA Agar *"Nissui"* 6-3
05238 Salt Egg Yolk Agar Base *"Nissui"* 6-4
06637 N-ID Test・SP-18 *"Nissui"*
06613 N-ID Test・SP-18 *"Nissui"* SP Plate
06614 N-ID Test・SP-18 *"Nissui"* SP Broth
06638 N-ID Test・SP-18 *"Nissui"* SP Reagent 6-5

Haemophilus / Neisseria

06635 ID Test・HN-20 Rapid *"Nissui"*
06640 ID Test・HN-20 Rapid *"Nissui"* HN Reagent 7-1

Index

Dehydrate Media

Anaerobes

05420 GAM Agar *"Nissui"* 8-1
05426 GAM Agar, Modified *"Nissui"* 8-2
05433 GAM Broth, Modified *"Nissui"* 8-3
05422 GAM Broth *"Nissui"* 8-4
05460 GAM Semisolid without Dextrose *"Nissui"* 8-5
05424 GAM Semisolid *"Nissui"* 8-6
05404 CW Agar Base without KM *"Nissui"* 8-7
05405 CW Agar Base with KM *"Nissui"* 8-8
05440 Bacteroides Agar *"Nissui"* 8-9
05441 FM Agar, Modified *"Nissui"* 8-10
05450 GAM Agar with GM *"Nissui"* 8-11
05430 BL Agar *"Nissui"* 8-12
05409 Clostridia Count Agar *"Nissui"* 8-13

Bacillus cereus

05282 NGKG Agar Base *"Nissui"* 9-1

Viable bacteria

05530 Sensitivity Disk Agar-N *"Nissui"* 10-1
05533 Mueller-Hinton Agar-N *"Nissui"* 10-2
05534 Sensitivity Test Broth *"Nissui"* 10-3
05503 Heart Infusion Agar *"Nissui"* 10-4
05505 Heart Infusion Broth *"Nissui"* 10-5
05507 Brain Heart Infusion Agar *"Nissui"* 10-6
05509 Brain Heart Infusion Broth *"Nissui"* 10-7
05514 Nutrient Agar *"Nissui"* 10-8
05511 Nutrient Broth *"Nissui"* 10-9
05516 Trypto-Soya Agar (SCD Agar) *"Nissui"* 10-10
05630 Trypto-Soya Broth (SCD Broth) *"Nissui"* 10-11
05528 **Buffered Sodium Chloride Peptone Solution (pH7.0) *"Nissui"*** 10-12
05522 Dorset Egg Medium *"Nissui"* 10-13
05527 CLED Agar *"Nissui"* 10-14
05601 TGC Medium, Fluid *"Nissui"* 10-15

NISSUI PHARMACEUTICAL CO., LTD.

Index

Dehydrate Media

Viable bacteria

05610 TGC Medium without Indicator, Liquid *"Nissui"* 10-16
05629 TGC Medium without Indicator, Fluid *"Nissui"* 10-17
05602 Dextrose Peptone Broth *"Nissui"* 10-18
05618 Standard Method Agar *"Nissui"* 10-19
05622 Plate Count Agar with BCP *"Nissui"* 10-20
05625 CVT Agar *"Nissui"* 10-21

E.coli and Coliform

05634 Lactose Broth *"Nissui"* 11-1
05638 BGLB Broth *"Nissui"* 11-2
05648 EC Broth *"Nissui"* 11-3
05636 Desoxycholate Agar *"Nissui"* 11-4
05644 EMB Agar *"Nissui"* 11-5
05631 X-GAL Agar *"Nissui"* 11-6
05632 XM-G Agar *"Nissui"* 11-7
05607 Blue Light Broth *"Nissui"* 11-8
05591 EC-Blue 100P *"Nissui"*
05593 EC-Blue 100 *"Nissui"*
05613 EC-Blue 10 *"Nissui"* 11-9
06574 EC-Blue 100 Bottle Holder *"Nissui"* 11-10
06516 EC-Blue 10 *"Nissui"* Comparator
05617 EC-Blue 100 *"Nissui"* Comparator 11-11
06517 EC-Blue 100 *"Nissui"* MPN Plate 11-12
05643 MacConkey Sorbitol Agar *"Nissui"* 11-13
05679 EF Agar Base *"Nissui"* 11-14
05649 mEC Broth *"Nissui"* 11-15

Fungus

05701 Sabouraud Agar *"Nissui"* 12-1
05702 Corn Meal Agar *"Nissui"* 12-2
05680 AC Broth Base *"Nissui"* 12-3
05703 Candida GE Agar *"Nissui"* 12-4
05705 Czapek Dox Agar *"Nissui"* 12-5

Index

Dehydrate Media

Fungus

05706 Malt Agar *"Nissui"* 12-6
05709 Potato Dextrose Agar *"Nissui"* 12-7

Vitamin

05800 Lactobacilli Culture Agar *"Nissui"* 13-1
05801 Lactobacilli Inoculum Broth *"Nissui"* 13-2
05802 B_{12} Culture Agar *"Nissui"* 13-3
05803 B_{12} Inoculum Broth *"Nissui"* 13-4
05819 B_{12} Assay Medium (Set) *"Nissui"* 13-5
05815 Pyridoxine Assay Medium *"Nissui"* 13-6
05816 Niacin Assay Medium *"Nissui"* 13-7
05814 Folic Acid Assay Medium *"Nissui"* 13-8
05817 Pantothenate Assay Medium *"Nissui"* 13-9
05818 Biotin Assay Medium *"Nissui"* 13-10
05835 Powdered Agar *"Nissui"* 13-11

Prepared Media

Tube Media

05169 Nissui Tube Triple Sugar Iron Agar 14-1
05170 Nissui Tube Sulfide Indole Motility Medium 14-2
05171 Nissui Tube Lysine Indole Motility Medium 14-3

Food Stamp

06053 Food Stamp *"Nissui"* Desoxycholate Agar (DESO)
06052 Food Stamp *"Nissui"* Desoxycholate Agar (DESO) 15-1
06764 Food Stamp *"Nissui"* X-GAL Agar (XGAL)
06763 Food Stamp *"Nissui"* X-GAL Agar (XGAL) 15-2
06051 Food Stamp *"Nissui"* Standard Method Agar (SMA)
06050 Food Stamp *"Nissui"* Standard Method Agar (SMA) 15-3
06776 Food Stamp *"Nissui"* XM-G Agar (XM-G)
06775 Food Stamp *"Nissui"* XM-G Agar (XM-G) 15-4
06055 Food Stamp *"Nissui"* TCBS Agar (TCBS) 15-5

Index

Prepared Media

Food Stamp

06054 Food Stamp *"Nissui"* TCBS Agar (TCBS) 15-5
06057 Food Stamp *"Nissui"* TGSE Agar (TGSE)
06056 Food Stamp *"Nissui"* TGSE Agar (TGSE) 15-6
06751 Food Stamp *"Nissui"* MLCB Agar (MLCB)
06750 Food Stamp *"Nissui"* MLCB Agar (MLCB) 15-7
06753 Food Stamp *"Nissui"* Cereus Agar (CERE)
06752 Food Stamp *"Nissui"* Cereus Agar (CERE) 15-8
06757 Food Stamp *"Nissui"* X-SA Agar (X-SA)
06756 Food Stamp *"Nissui"* X-SA Agar (X-SA) 15-9
06064 Food Stamp *"Nissui"* Sabouraud Agar (SABO)
06063 Food Stamp *"Nissui"* Sabouraud Agar (SABO) 15-10
06755 Food Stamp *"Nissui"*
Potato dextrose Agar with Chloramphenicol (PDA)
06754 Food Stamp *"Nissui"*
Potato dextrose Agar with Chloramphenicol (PDA) . 15-11
06231 Food Plate X *"Nissui"* 15-12

Compact Dry (Link to Product's Info (English, Traditional or Simplified Chinese))

06740 Compact Dry "Nissui" TC
06741 Compact Dry "Nissui" TC 16-1
06744 Compact Dry "Nissui" CF
06745 Compact Dry "Nissui" CF 16-2
06742 Compact Dry "Nissui" EC
06743 Compact Dry "Nissui" EC 16-3
06746 Compact Dry "Nissui" YM
06747 Compact Dry "Nissui" YM 16-4
06748 Compact Dry "Nissui" VP
06749 Compact Dry "Nissui" VP 16-5
06729 Compact Dry "Nissui" X-SA
06730 Compact Dry "Nissui" X-SA 16-6
06732 Compact Dry "Nissui" SL
06733 Compact Dry "Nissui" SL 16-7

Index

Prepared Media

Compact Dry

06727 Compact Dry “Nissui” X-BC
06728 Compact Dry “Nissui” X-BC 16-8
06738 Easy Wiping Kit “Nissui” 16-9
01553 Sterilized Diluting Solution “Nissui” 9 mL × 4
01551 Sterilized Diluting Solution “Nissui” 90 mL 16-10
06737 Opener with Sterilized Diluting Solution *“Nissui”* 16-11
06598 Wiping Frame *“Nissui”* 100 16-12
06472 Sterilized Spoid *“Nissui”* 16-13

Clean Stamp

06781 Clean Stamp *“Nissui”* MSO Agar (MSO)
06780 Clean Stamp *“Nissui”* MSO Agar (MSO) 17-1
06785 Clean Stamp *“Nissui”* SCD Agar (SCD)
06784 Clean Stamp *“Nissui”* SCD Agar (SCD) 17-2
06787 Clean Stamp *“Nissui”*
SCD Agar with Lecithin, polysorbate 80 (SCDLP)
06786 Clean Stamp *“Nissui”*
SCD Agar with Lecithin, polysorbate 80 (SCDLP) 17-3
06783 Clean Stamp *“Nissui”* Mannitol Salt Agar with Egg Yolk (MSEY)
06782 Clean Stamp *“Nissui”* Mannitol Salt Agar with Egg Yolk (MSEY) ... 17-4
06791 Clean Stamp 25 *“Nissui”* SCD Agar (SCD)
06790 Clean Stamp 25 *“Nissui”* SCD Agar (SCD) 17-5
06789 Clean Stamp *“Nissui”* Cetrimide Kanamycin Sulfate
Nalidixic Acid Agar (PSEU) 17-6
06793 Clean Stamp 25 *“Nissui”* SCDLP Agar (SCDLP)
06792 Clean Stamp 25 *“Nissui”* SCDLP Agar (SCDLP) 17-7
06795 Clean Stamp 25 *“Nissui”*
Sabouraud Agar with Chloramphenicol (CPSB)
06794 Clean Stamp 25 *“Nissui”*
Sabouraud Agar with Chloramphenicol (CPSB) 17-8

Index

Food Allergen Detection Kit

08630 FASTKIT SLIM EGG *"Nissui"*
08631 FASTKIT SLIM MILK *"Nissui"*
08632 FASTKIT SLIM WHEAT *"Nissui"*
08633 FASTKIT SLIM BUCK WHEAT *"Nissui"*
08634 FASTKIT SLIM PEANUT *"Nissui"* 18-1
08615 FASTKIT ELISA ver.II EGG *"Nissui"*
08616 FASTKIT ELISA ver.II MILK *"Nissui"*
08617 FASTKIT ELISA ver.II WHEAT *"Nissui"*
08618 FASTKIT ELISA ver.II BUCK WHEAT *"Nissui"*
08619 FASTKIT ELISA ver.II PEANUT *"Nissui"*
08606 FASTKIT ELISA ver.II SOYBEAN *"Nissui"* 18-2
08621 FA test EIA-Crustacea *"Nissui"*
08622 FA test Extraction Solution *"Nissui"* 18-3
08623 FA test Immunochromato-Crustacea *"Nissui"* 18-4

Tissue Culture Medium

05900 Eagle's MEM *"Nissui"* ①
08160 Eagle's MEM *"Nissui"* ① 19-1
05901 Eagle's MEM *"Nissui"* ② 19-2
05902 Eagle's MEM *"Nissui"* ③ 19-3
05904 **Eagle's MEM Amino Acids and Vitamins Medium** *"Nissui"* 19-4
05913 Dulbecco's PBS (-) *"Nissui"*
08190 Dulbecco's PBS (-) *"Nissui"*
08192 Dulbecco's PBS (-) *"Nissui"* 19-5
05908 Glutamine *"Nissui"* 19-6
05915 Dulbecco's Modified Eagle Medium *"Nissui"* ① 19-7
05919 Dulbecco's Modified Eagle Medium *"Nissui"* ② 19-8
05963 SFM-101 *"Nissui"* 19-9
05911 RPMI 1640 Medium *"Nissui"* ① 19-10
05918 RPMI 1640 Medium *"Nissui"* ② 19-11
05971 ES Medium *"Nissui"* 19-12

Index

Tissue Culture Medium

05909 Medium 199 *"Nissui"* 19-13
05910 Ham's F12 Medium *"Nissui"* 19-14
05905 Hank's solution *"Nissui"* ①
05906 Hank's solution *"Nissui"* ② 19-15

Company Information

Established :	**April 6, 1935**
Head Office :	**3-23-9, Ueno, Taito-ku, Tokyo 110-8736**
Capital :	**4,449,844,000 yen**
Employees :	**334 (2010.3.31)**
Associated Company :	**Nippon Suisan Kaisha, Ltd.**
Distribution :	**Culture Media and Diagnostics** **Pharmaceuticals and Health Food Supplements**
Export To ... :	**Germany, Thailand, Korea, Taiwan, Hong Kong, China, United States, Switzerland, ...**
URL :	**http://www.nissui-pharm.co.jp/**

Contact

DIAGNOSTIC AGENT MARKETING DEPARTMENT
INTERNATIONAL SALES GROUP
TEL: +81 - 3 - 5846 - 5701 FAX: +81 - 3 - 5846 - 5629
In English: Mikiko NISHIZAWA (E-mail: m-nishizawa@nissui-pharm.jp)
In Chinese: Koh SAI (E-mail: k-sai@nissui-pharm.jp)

SBG Broth Base *"Nissui"*

(Selenite Brilliant Green Broth Base, For isolation of *Salmonella*)

Uninoculated

Salmonella

Code	Form	Package	Storage	Shelf Life
05006	**Powder**	**100 g**	**Dry, Cool**	**2 years**

Directions

Suspend 19.7 g of the dehydrated medium and 4.0 g of sodium selenite in 1,000 mL of distilled water, mix well to dissolve the medium. Avoiding excessive heating, keep at 100 °C for 10 minutes. **Do not autoclave.** Distribute aseptically about 10 mL amounts in to sterilized test tubes. Inoculate about 1 g of the specimen such as feces. Mix well and incubate at 37 °C for 18 – 24 hours. Take a loopful of the culture and then inoculate on a plate of the selective medium.
Use sodium selenite of high quality.

Remarks

The medium inhibits the growth of *Alcaligenes, Pseudomonas, Proteus* and other bacteria that grow on the selenite medium, and permits the growth of *Salmonella.*
S. typhi and *S. paratyphi* A do not grow well in the medium.
SBG Sulfa Medium is more suitable than this medium for the isolation of *Salmonella* from eggs and egg products.

Storage

Keep dry and cool place to prevent powder product and prepared solution form color fading.

Formula

Components	In 19.7 g/L
Yeast Extract	5.0 g
Peptone	5.0 g
Mannitol	5.0 g
Sodium Taurocholate	1.0 g
Dipotassium Phosphate	2.65 g
Potassium Dihydrogen Phosphate	1.02 g
Brilliant Green	0.005 g
	pH 7.2 ±

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05006-20100120 Koh

EEM Broth *"Nissui"*

(Enterobacteriaceae Enrichment Mannitol Broth for preliminary culture of *Salmonella*)

Uninoculated

Salmonella

Code	Form	Package	Storage	Shelf Life
05002	**Powder**	**100 g**	**Dry, RT**	**3 years**

Directions

Suspend 43.5 g of the dehydrated medium in 1,000 mL of distilled water, mix well to dissolve the medium. Distribute adequate amounts into sterilized test tubes or sterilized flask and then heat them at 100 °C for 30 minutes. Avoid excessive heating, **do not autoclave**.
Add the specimen of about one-tenth of the medium and incubate at 37 °C for 3 hours. Stir them well after the first incubation and continue the incubation for 20 – 24 hours or more. Finally, take a loopful of the culture and subculture on an adequate selective medium.

Remarks

The medium is quite suitable for preliminary culture of *Salmonella* in food and feed.

Formula

Components	In 43.5 g/L
Peptone	**10.0 g**
Mannitol	**5.0 g**
Disodium Phosphate	**6.45 g**
Potassium Dihydrogen Phosphate	**2.0 g**
Bile Powder	**20.0 g**
Brilliant Green	**0.0135 g**

pH 7.2 ±

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05002-20100120 Koh SAN

Selenite Cystine Broth Base *"Nissui"*

(Selective Enrichment Medium for *Salmonella*)

Code	Form	Package	Storage	Shelf Life
05009	**Powder**	**100 g**	**Dry, RT**	**3 years**

Directions

Suspend 19.0 g of the dehydrated medium and 4.0 g of Sodium Selenite in 1,000 mL of distilled water, mix well to dissolve the medium. Heat the mixture to dissolve, if necessary. **Do not autoclave, nor heat too long.**
The medium can be used for selective growth culture of *Salmonella* in not only clinical specimen but also foodstuffs and water.

Remarks

The medium is ready to use simply after mixing to dissolve.
If not dissolved well, heat up.
If it is heated too long, a red turbidity is produced.

Formula

Components	In 19.0 g/L
Peptone	**5.0 g**
Lactose	**4.0 g**
Sodium Phosphate	**10.0 g**
L-Cystine	**0.01 g**
	pH 7.0 ±

Back to the Index

05009-20100122 Koh SAN

Tetrathionate Broth (TT) *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05132	Powder	300 g	Dry, RT	3 years

Directions

Suspend 46.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Cool to below 45°C. Add 20 mL iodine solution (6 g iodine crystals and 5 g potassium iodide dissolved in 20 mL of distilled water) and mix well. Distribute adequate amounts into sterilized test tubes. Do not heat after addition of iodine solution.
Prepared medium should be used in a day of preparation. Incubate at 42°C for 20 - 24 hours.

Remarks

The medium is suitable for enrichment of *Salmonella* in food.

Formula

Components	In 46.0 g/L
Casein Peptone	2.5 g
Meat Peptone	2.5 g
Bile Salt	1.0 g
Calcium Carbonate	10.0 g
Sodium Thiosulfate	30.0 g

Back to the Index

05132-20100122 Koh SAKAI

Rappaport-Vassiliadis (RV) Broth *"Nissui"*

(Selective isolation medium for *Salmonella*)

Uninoculated

Salmonella

Code	Form	Package	Storage	Shelf Life
05130	**Powder**	**300 g**	**Dry, RT**	**3 years**

Directions

Suspend 26.8 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute adequate amounts into sterilized test tubes or sterilized flask and then autoclave at 115°C for 15 minutes.
Incubate at 30-35°C for 18–24 hours.

Remarks

The medium is suitable for enrichment of *Salmonella* in food.

Formula

Components	In 26.8 g/L
Soy Bean Peptone	4.5 g
Sodium Chloride	7.2 g
Magnesium Chloride	13.58 g
Dipotassium Phosphate	0.18 g
Potassium Dihydrogen Phosphate	1.26 g
Malachite green	0.036 g

pH 5.2 ± 0.2

Back to the Index

05130-20100126 Koh SAKAI

Buffered Peptone Water (BPW) *"Nissui"*

(Buffered Peptone Water for Pre-culture of *Salmonella*)

Code	Form	Package	Storage	Shelf Life
05131	**Powder**	**300 g**	**Dry, RT**	**3 years**

Directions

Suspend 20.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute adequate amounts into sterilized test tubes or sterilized flask and then autoclave at 121°C for 15 minutes.
Add 1/10 volume of the homogenized specimen (i.e., 1 mL homogenized specimen put into 10 mL broth) into the broth and stir them well. Incubate at 37°C for 20 – 24 hours. Finally, take one loop of the culture and subculture on an adequate selective medium (ex. Compact Dry SL, SS agar, MLCB Agar).
For liquid Egg sample, add 0.2 g L-cystein or 64 mg $FeSO_4 \cdot 7H_2O$ in 1 liter of Broth.

Remarks

The medium is suitable for pre-culture of *Salmonella* in food.

Formula

Components	In 20.0 g/L
Peptone	**10.0 g**
Sodium Chloride	**5.0 g**
Monopotassium Phosphate	**3.5 g**
Potassium Dihydrogen Phosphate	**1.5 g**

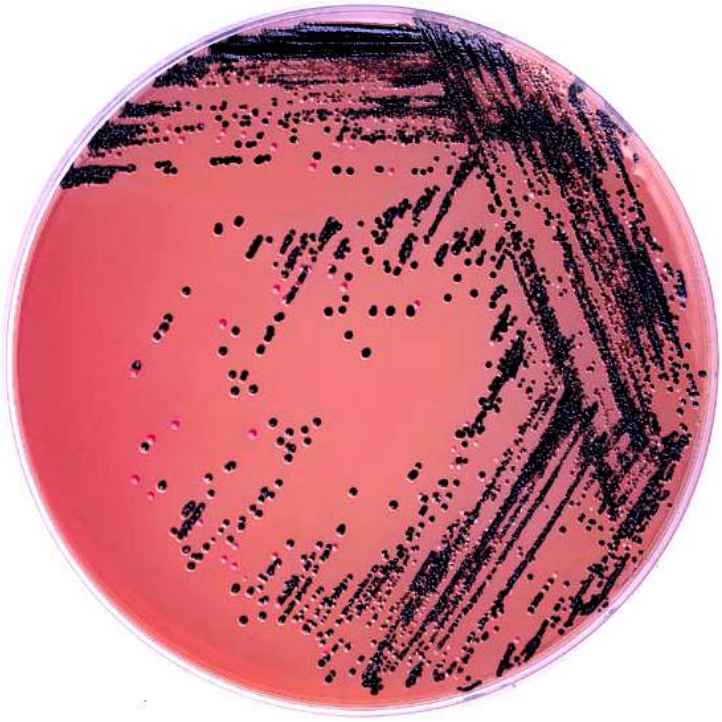
pH 7.2 ±

Back to the Index

05131-20100126 Koh SAKAI

SSB Agar *"Nissui"*

(*Salmonella Shigella* Brom Cresol Purple Agar)



Code	Form	Package	Storage	Shelf Life
05025	Granule	300 g	Dry, RT	3 years
05024		60 g × 20		

Directions

Suspend 60.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute into Petri dishes without sterilizing and dry the surface of the plate sufficiently before use. Incubate at 37 °C for 16 – 18 hours.

Determinations

Organisms non-fermenting lactose and saccharose such as *Salmonella* and *Shigella* form light blue, semitransparent colonies.
On the other hand, organisms fermenting lactose and saccharose form purple or pink, turbid colonies, which makes differentiation between two types of colonies easy. Organisms such as *Proteus* fermenting saccharose form light purple colonies, while the colonies of organisms producing hydrogen sulfide turn black more easily than those formed on SS Agar.

Remarks

The medium contains the combination of two dyes, i.e. neutral red and brom cresol purple, so that the plate assumes a reddish purple color. Thus the medium is distinctive in its usage from SS Agar, DCLS Agar and MacConkey Agar.
Salmonella and *Shigella* form light blue, semitransparent colonies on the medium larger than those on SS agar in a short time of incubation (16 – 18 hours). On the other hand, organisms fermenting lactose and saccharose form vividly reddish purple, turbid colonies.
The medium strongly supports the growth of *Salmonella*, and even *S. pullorum* and *S. enteritidis*, which hardly grow on SS agar, grow well on this medium.
There is no need to inoculate the specimen heavily as in case of SS Agar.

Formula

Components	In 60.0 g/L
Meat Extract	3.0 g
Peptone	8.0 g
Sodium Citrate	5.0 g
Sodium Thiosulfate	2.0 g
Ferric Ammonium Citrate	1.0 g
Lactose	10.0 g
Sucrose	10.0 g
Bile Salts	5.0 g
Neutral Red	0.02 g
Brom Cresol Purple	0.01 g
Agar	16.0 g
	pH 7.4 ±

NISSUI PHARMACEUTICAL CO., LTD.

05025-05024-20100125 Keh SAN

SS Agar with Sucrose *"Nissui"*

(Selective isolation and differential medium for *Salmonella* and *Shigella*)

Code	Form	Package	Storage	Shelf Life
05032	Granule	280 g	Dry, RT	3 years
05033		70 g × 20		

Directions

Suspend 70.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute about 20 mL amounts to Petri dishes. Dry the surface of the plate until moisture disappears from the surface by leaving the lids of the dishes partly open.
Do not autoclave.

Determinations

Inoculate the specimens heavily and incubate at 37 °C for 20 – 24 hours.
Pathogenic bacteria form semitransparent colonies Lactose fermenters form pink or red colonies. Also Sucrose fermented *Citrobacter* does not form black colonies and it can be identify easily.

Remarks

•Features
The medium inhibits the growth of *E. coli* and miscellaneous bacteria.
The medium does not require any sterilizing procedures.
The medium enables to detect pathogenic bacteria easily and its detection rate is far more excellent than other media.
•Note
The medium requires inoculation of a large amount of feces than in case of other selective media.

Formula

Components	In 70.0 g/L
Meat Extract	5.0 g
Bile Salts	8.5 g
Peptone	8.0 g
Lactose	10.0 g
Sucrose	10.0 g
Sodium Citrate	8.5 g
Sodium Thiosulfate	5.5 g
Ferric Citrate	1.0 g
Neutral Red	0.025 g
Brilliant Green	0.33 mg
Agar	13.5 g
	pH 7.2 ±

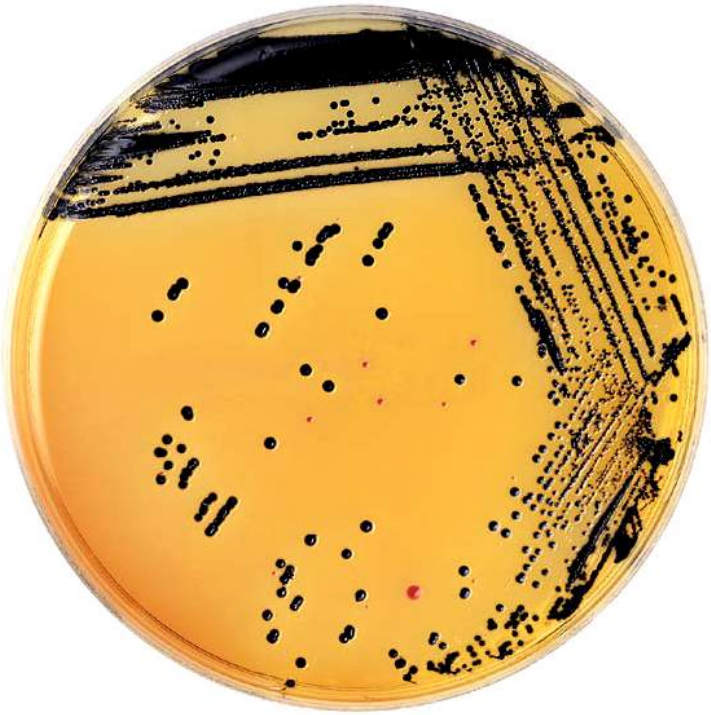
Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05032-05033-20100125 Koh SAN

SS Agar "Nissui"

(Selective isolation and differential medium for *Salmonella* and *Shigella*)



Code	Form	Package	Storage	Shelf Life
05021	Granule	240 g	Dry, RT	3 years
05020		60 g × 20		

Directions

Suspend 60.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute about 20 mL amounts to Petri dishes. Dry the surface of the plate until moisture disappears from the surface by leaving the lids of the dishes partly open.
Do not autoclave.

Determinations

Inoculate the specimens heavily and incubate at 37 °C for 20 – 24 hours.
Pathogenic bacteria form semitransparent colonies Lactose fermenters form pink or red colonies. Some strains of *Proteus* produce hydrogen sulfide and turn black. *Proteus* grown on the medium forms colonies similar to those of pathogenic bacteria.

Remarks

•Features
The medium inhibits the growth of *E. coli* and miscellaneous bacteria.
The medium does not require any sterilizing procedures.
The medium enables to detect pathogenic bacteria easily and its detection rate is far more excellent than other media.
•Note
The medium requires inoculation of a large amount of feces than in case of other selective media.

Formula

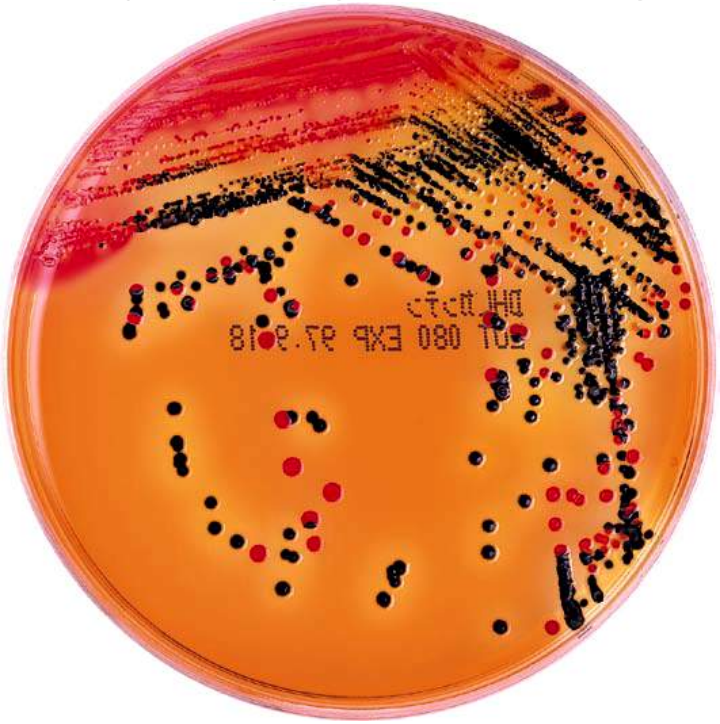
Components	In 60.0 g/L
Meat Extract	5.0 g
Bile Salts	9.0 g
Peptone	7.5 g
Lactose	10.0 g
Sodium Citrate	8.5 g
Sodium Thiosulfate	5.5 g
Ferric Citrate	1.0 g
Neutral Red	0.025 g
Brilliant Green	0.33 mg
Agar	13.5 g
	pH 7.3 ±

Back to the Index

05021-05020-20100125 Keh SAN

DHL Agar *"Nissui"*

(Desoxycholate Hydrogen Sulfide Lactose Agar)



Code	Form	Package	Storage	Shelf Life
05040	Granule	300 g	Dry, RT	3 years

Directions

Suspend 63.3 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute about 20 mL amounts to the Petri dishes and dry the surface of the medium before use.

Determinations

Incubate at 37 °C for about 20 hours. Avoid heavy inoculation of the specimen as on SS Agar. The amount of specimen applied to in case of MacConkey Agar is desirable. Lactose, saccharose non-fermenting organisms form colorless and transparent colonies relatively larger than those on SS Agar. On the other hand, lactose, saccharose fermenting organisms form red and opaque colonies. Thus differentiation between the two organisms is easy. Organisms producing hydrogen sulfide are liable to form black colonies.

Remarks

Though this medium has little selectivity, it supports excellent growth of *Shigella* and *Salmonella* that do not grow well on SS Agar, and is used for the isolation of pathogenic coli.

Formula

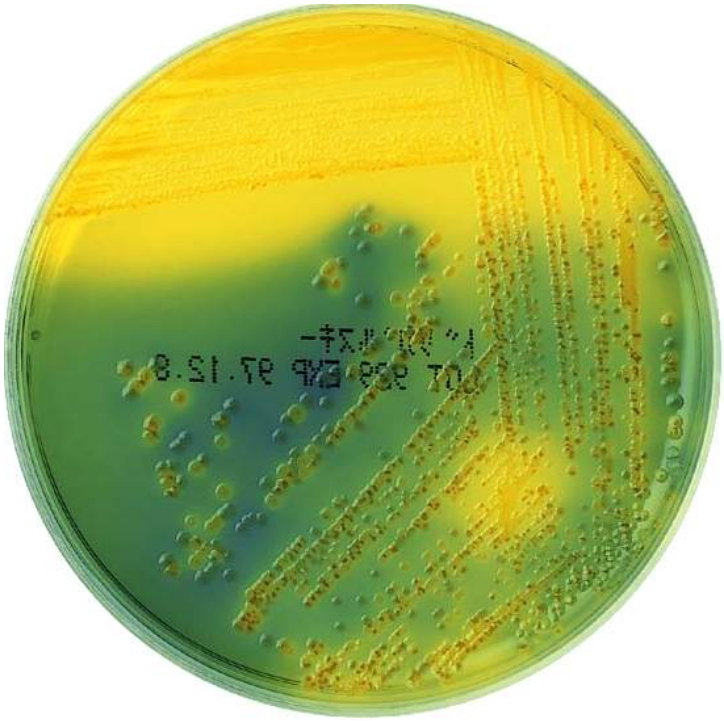
Components	In 63.3 g/L
Meat Extract	3.0 g
Peptone	20.0 g
Lactose	10.0 g
Sucrose	10.0 g
Sodium Desoxycholate	1.0 g
Sodium Thiosulfate	2.3 g
Sodium Citrate	1.0 g
Ferric Ammonium Citrate	1.0 g
Neutral Red	0.03 g
Agar	15.0 g
	pH 7.4 ±

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05040-20100126 Koh

BTB Lactose Agar *"Nissui"*



Code	Form	Package	Storage	Shelf Life
05042	**Powder**	**300 g**	**Dry, RT**	**3 years**

Directions

Suspend 40.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute about 20 mL amounts into the Petri Dish after being sterilized by autoclaving at 121°C for 15 minutes.
Incubate at 37°C for about 18-24 hours.
Since the medium has a very weak selectivity, small colonies of Staphylococcus and/or gram positive Cocci may grow.

Remarks

Organisms non-fermenting lactose such as *Salmonella* and *Shigella* form colorless semitransparent colonies, while organisms fermenting lactose such as coliform form yellow colonies.

Formula

Components	In 40.0 g/L
Meat Extract	**5.0 g**
Peptone	**10.0 g**
Lactose	**10.0 g**
Brom Thymol Blue	**0.08 g**
Agar	**15.0 g**

pH 7.2 ±

Back to the Index

05042-20100126 Koh SAN

MacConkey Agar *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05037	Granule	300 g	Dry, RT	3 years

Directions

Suspend 50.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Sterilize by autoclaving at 121°C for 15 minutes, and distribute about 20 mL into Petri dishes aseptically, and dry the surface of the medium before use.

Determinations

Incubate at 30-35°C for 18–72 hours.
Pathogenic bacteria form semitransparent colonies.
Colonies of *E. coli* assume an intensely redbrick color and produce light pink or redbrick sediments around.

Remarks

•Features:
Differentiation between pathogenic bacteria and nonpathogenic bacteria on the medium is easier than in case of Endo's or Drigalski's medium.Even some organisms that cannot grow on SS Agar grow on the medium.

•Note:
•Aseptic procedures should be taken for this medium contrary to those of SS Agar.

Formula

Components	In 50.0 g/L
Peptone	20.0 g
Bile Salts	2.0 g
Lactose	10.0 g
Sodium Chloride	5.0 g
Neutral Red	0.03 g
Crystal Violet	0.001 g
Agar	13.0 g
	pH 7.1 ± 0.2

Back to the Index

05037-20100204 Koh SAKAI

TSI Agar *"Nissui"*

(Triple Sugar Iron Agar)

Code	Form	Package	Storage	Shelf Life
05103	Powder	100 g	Dry, RT	3 years

Directions

Suspend 61.4 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute about 4 mL into small test tubes, sterilize by autoclaving at 121°C for 15 minutes. Solidify in a slanted position with a generous butt. (Add 3 – 4% NaCl for vibrios)

Determinations

Take the bacteria to be tested with a straight wire, stab into the butt and smear on the slant. Incubate at 37°C for 18-24 hours before interpreting the reaction.

•Saccharolytic ability

Dextrose fermenting organisms show the following changes; the butt turns yellow, while the slant shows no change of color. Organisms fermenting both or either of lactose and saccharose change the color of both the butt and slant into yellow.

•Gas production

If gas is produced, bubbles or cracks will be made in the butt, and the production of hydrogen sulfide changes the butt into black.

Addition of cytochrome oxidase test reagent by dropping it onto the colonies causes them to turn blue within a minute or two (the positive reaction indicates the colonies are those of *V. cholerae*).

Remarks

The medium is a composite medium for the differentiation of *Enterobacteriaceae* and vibrios, and permits simultaneous observation of fermentation of dextrose, lactose and saccharose, gas production and the hydrogen sulfide production.

Formula

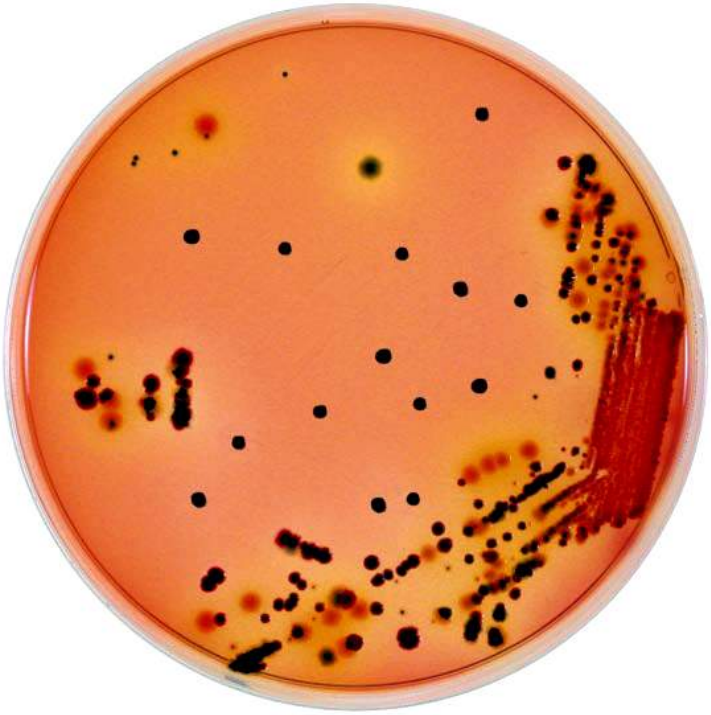
Components	In 61.4 g/L
Meat Extract	5.0 g
Sodium Chloride	5.0 g
Peptone	15.0 g
Lactose	10.0 g
Sucrose	10.0 g
Dextrose	1.0 g
Ferric Citrate	0.2 g
Sodium Thiosulfate	0.2 g
Phenol Red	0.02 g
Agar	15.0 g
	pH 7.3 ±

Back to the Index

05103-20100127 Koh SAKAI

X-SAL Agar "Nissui"

(For isolation of Salmonella causing food poisoning)



Code	Form	Package	Storage	Shelf Life
05140	Granule	300 g	Dry, RT	3 years

Directions

Suspend 68.2 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute about 20 mL amounts to Petri dishes, and dry the surface of the medium before use. **Do not autoclave**.

Determinations

Inoculate the specimens heavily and incubate at 33-37 °C for 18-24 hours.
Pathogenic bacteria form semitransparent colonies Lactose fermenters form pink or red colonies. Some strains of *Proteus* produce hydrogen sulfide and turn black. *Proteus* grown on the medium forms colonies similar to those of pathogenic bacteria.

Remarks

•Features

The medium inhibits the growth of *E. coli* and miscellaneous bacteria.
The medium does not require any sterilizing procedures.
The medium enables to detect pathogenic bacteria easily and its detection rate is far more excellent than other media.

•Note

The medium requires inoculation of a large amount of feces than in case of other selective media.

Formula

Components	In 68.2 g/L
Peptone	18.5 g
Meat Extract	2.5 g
Yeast Extract	1.0 g
Lactose	10.0 g
Saccharose	10.0 g
L-Lysine Hydrochlorude	5.0 g
Sodium Thiosulfate	2.0 g
Ammonium Iron Citrate	1.0 g
Sodium Citrate	1.0 g
Bile Salt	2.0 g
Neutral Red	0.03 g
Colorimetric Substrate by Enzyme	0.2 g
Agar	15.0g
	pH 7.0 ±

NISSUI PHARMACEUTICAL CO., LTD.

05140-20100127 Koh SAKAI

MLCB Agar® *"Nissui"*

(For isolation of Salmonella causing food poisoning)

Code	Form	Package	Storage	Shelf Life
05041	**Powder**	**300 g**	**Dry, RT**	**3 years**

Directions

Suspend 49.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute about 20 mL into Petri dishes without sterilizing and dry the surface of the medium sufficiently before use.

Determinations

Inoculate the specimens directly or after the enrichment, and incubate at 37 °C for 18 – 24 hours.

Salmonella produces hydrogen sulfide and forms black colonies, while the growths of some strains of *S. typhi* and *S. paratyphi* A is strongly inhibited, so the medium is unsuitable for isolation of them.

Furthermore, the growth of bacteria except *Salmonella* is strongly inhibited, and even though they grow on the medium, their colonies never turn black. Therefore differentiation is easy.

Remarks

The medium is not suitable for an isolation of *Salmonella* that causes typhoid fever because it was originally designed for the purpose of isolation of *Salmonella* that causes food poisoning.

Formula

Components	In 49.0 g/L
Yeast Extract	5.0 g
Peptone	10.0 g
Heart Extract Powder	2.0 g
Sodium Chloride	4.0 g
Mannitol	3.0 g
L-Lysine Hydrochloride	5.0 g
Sodium Thiosulfate	4.0 g
Ferric Ammonium Citrate	1.0 g
Brilliant Green	0.0125 g
Crystal Violet	0.01 g
Agar	15.0 g
	pH 6.8 ±

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05041-20100127 Koh SAKAI

LIM Medium *"Nissui"*

(Lysine Indole Motility Medium)

Code	Form	Package	Storage	Shelf Life
05104	**Powder**	**60 g**	**Dry, RT**	**3 years**

Directions

Suspend 30.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute about 5 mL into small test tubes. Sterilize by autoclaving at 121°C for 15 minutes. Then cool immediately and use as a semisolid butt.

Determinations

Take the bacteria with a straight wire and stab into about one third of the depth of the medium. Incubate at 37°C for 18-24 hours.

•Determination of Lysine decarboxylation:
The positive reaction is indicated by violet color (except light or faded violet) from the surface down to the bottom. While in case of the negative reaction, the deep or part changes into yellow and only the surface remains violet.

•Determination of Indole production:
Add Kovac's reagent into the tube. The color change of the reagent into red constitutes the positive indole reaction and no color change constitutes the negative one.

•Determination of Motility:
Motile bacteria cause the turbidity of the whole medium or only around the inoculum line, while non-motile ones grow only along the inoculum line.

Remarks

The medium has been found to be helpful in the identification of *Enterobacteriaceae*, and it also permits simultaneous examination of lysine decarboxylation, indole production and motility of bacteria. The combination with TSI Agar makes it easy to perform the screening test of the pathogenic bacteria, especially the differentiation of *Shigella, Salmonella* and the like.

Formula

Components	In 30.0 g/L
Peptone	**12.8 g**
Yeast Extract	**3.0 g**
Dextrose	**1.0 g**
L-Lysine Hydrochloride	**10.0 g**
L-Tryptophan	**0.5 g**
Brom Cresol Purple	**0.02 g**
Agar	**2.7 g**
	pH 6.8 ±

NISSUI PHARMACEUTICAL CO., LTD.

05104-20100127 Koh SAKAI

SIM Medium *"Nissui"*

(Confirmation of Enteric bacteria)

Code	Form	Package	Storage	Shelf Life
05106	**Powder**	**100 g**	**Dry, RT**	**3 years**

Directions

Suspend 35.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute about 5 mL into small test tubes, sterilize by autoclaving at 121°C for 15 minutes and cool immediately to a deep agar. Take bacteria to be tested with a straight wire and stab into the butt of the medium. Incubate at 37°C for 24 hours.

Remarks

The medium, as a differentiation medium, permits the tests of motility as well as productions of indole and hydrogen sulfide of the bacteria.

•Observation of indole production:
When an indole reagent is laid over, positive bacteria change the color of reagent into red, though negative one does not.

•Observation of hydrogen sulfide:
Positive bacteria change the color of medium into black.

•Observation of motility:
Positive bacteria grow to get turbid whole deep agar. Negative bacteria grow only along with the stab portion.

Formula

Components	In 35.0 g/L
Meat Extract	**3.0 g**
Peptone	**28.0 g**
Sodium Thiosulfate	**0.025 g**
Ferric Ammonium Citrate	**1.0 g**
Agar	**3.0 g**
	pH 7.2 ±

Back to the Index

05106-20100128 Koh SAKAI

DNA Agar *"Nissui"*

(Deoxyribonucleic Acid Agar for detection of DNase)

Code	Form	Package	Storage	Shelf Life
05148	Powder	100 g	Dry, RT	3 years

Directions

Suspend 42.1 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium.
Sterilize by autoclaving at 121 °C for 15 minutes.
Distribute about 20 mL of the medium into Petri dishes, and dry out the surface of the medium before use.

Determinations

For the detection of DNase production, inoculate the freshly cultured bacteria by streaking on the plate and incubate at 37 °C for 24 hours.
For the detection of thermo-stable DNase production, run the test according to the simplified Menzie's method.
For the isolation of *Serratia*, inoculate a small amount of the specimen on the plate and incubate at 37 °C for 20 - 24 hours.
Positive reaction of DNase production (+): The color of the medium around the colonies turns red or reddish violet.
Negative reaction of DNase production (-): The color of the medium around the colonies remains unchanged.
The detection of production of thermo-stable DNase should also be interpreted in accordance with the above-mentioned criteria.
Isolation of *Serratia* is indicated by the distinctive change of positive DNase production.

Remarks: (Features)

As the medium contains toluidine blue O, there is no need to add hydrochloric acid onto the colonies for the determination of the DNase production.
The medium makes it possible to identify rapidly and accurately the thermo-stable DNase production that is useful for the detection of pathogenic *Staphylococcus*.
It can be used for the isolation of Serratia that is indicated by the distinctive change of positive DNase production.

Precautions for use

The medium is not suitable for isolation of *Staphylococcus*.
By adding 1ml of cephalothin solution (100 mg/mL) to 100 mL of the medium, it can be used as the selective medium for *Serratia*.

Formula

Components	In 42.1 g/L
Peptone	15.0 g
Soya Peptone	5.0 g
Sodium Chloride	5.0 g
Deoxyribonucleic Acid	2.0 g
Toluidine Blue O	0.1 g
Agar	15.0 g
	pH 7.2 ±

Back to the Index

05148-20100128 Koh SAN

SC Agar *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05111	Powder	100 g	Dry, RT	3 years

Directions

Suspend 24.2 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute about 3 mL of the medium into small test tube and sterilize by autoclaving at 121°C for 15 minutes. Solidify in a full slanted position.
Take the bacteria to be tested with a straight wire and smear on the slant. Incubate at 37°C for 24 hours.

Remarks

The medium is used for an identification test for Enteric bacteria providing a confirmation of consumption of citrate. Positive bacteria change the color of medium into an intense blue with a formation of colonies.

Formula

Components	In 24.2 g/L
Sodium Chloride	5.0 g
Magnesium Sulfate	0.2 g
Monoammonium Phosphate	1.0 g
Dipotassium Phosphate	1.0 g
Sodium Citrate	2.0 g
Brom Thymol Blue	0.024 g
Agar	15.0 g
	pH 6.8 ±

Back to the Index

05111-20100201 Koh SAKAI

VP-MR Medium *"Nissui"*

(Dextrose Phosphates Peptone Water, Voges-Proskauer Methyl Red Medium)

Code	Form	Package	Storage	Shelf Life
05107	**Powder**	**100 g**	**Dry, RT**	**3 years**

Directions

Suspend 17.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute about 2 mL of the medium into small test tube and sterilize by autoclaving at 121°C for 15 minutes. Incubate at 25-30°C for 2 days.
The medium is used for a confirmation test of Enteric bacteria by VP and MR tests.

Remarks

VP Test:
Add 1 ml of 6% α-Naphtol solution and 0.2 ml of 40% Potassium hydroxide, and shake vigorously. A red color develops after several minutes after it is left on slant position, if positive. Negative is confirmed if no red color developed even after one hour.

MR Test:
Add 2 to 3 drops of Methyl Red solution. A red color develops if positive, while a yellow color develops if negative.

Formula

Components	In 17.0 g/L
Peptone	**7.0 g**
Dextrose	**5.0 g**
Dipotassium Phosphate	**5.0 g**
	pH 6.8 ±

Back to the Index

05107-20100201 Koh SAKAI

ONPG Disk *"Nissui"*

(For β-galactosidase test)

Code	Form	Package	Storage	Shelf Life
05182	**Disk**	**50 Disks**	**Dark, Cool**	**1 year**

Directions

Put a disk in a small test tube and add 1.0 mL of sterilized distilled water. Inoculate the organisms which have been cultured on the agar medium, and mix well. Incubate at 37 °C for 18-24 hours and examine the reaction. (An early decision in 1-2 hours is possible.)

Determination

•Positive:

Decide as positive, if the solution turns yellow. (The yellow color is due to *o*-nitrophenyl produced from ONPG by β-galactosidase.)

•Negative:

Decide as negative, if the solution remain unchanged.

Remarks

The disk enables a simple and rapid β-galactosidase tsdt for examination of properties of bacteria.

Formula

This disk contains ONPG (*o*-nitrophenyl-β-D-galactopyranoside), peptone, and sodium phosphate.

Back to the Index

05182-201000204 Koh

Cytochrome Oxidase Test Strip *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05180	**Piece**	**15 Pieces**	**Dark, Cool**	**-**

Directions

Put a piece into a Petri dish, add several drops of distilled water to moisten the piece wholly, and immediately smear organisms to be tested (colony or slant culture) on the strip using a platinum loop or a glass rod.

Note:

When a nichrome wire loop is used, use as fresh a one as possible covering it with absorbent cotton.

As the water should not contain iron ion, use distilled water (or pure water passed through ion-exchange resin).

Determinations

Cytochrome oxidase positive bacteria turn the smeared area into deep blue within one minute, but the area remains unchanged in case of negative bacteria.

Remarks

This test strip was originally devised to examine the presence of cytochrome oxidase bacteria simply and accurately. Accordingly, the strip is very suitable for the examination of biological property for *Aeromonas*, *Pseudomonas*, *Vibrio*, etc. and for the differentiation of these bacteria from *Enterobacteriaceae*.

Storage

Store in a dark and cool place. If not stored properly, the strip will turn blue before use. Such a strip should not be used.

Formula

This product is a simplified Kovács oxidase test.

Back to the Index

05180-20100204 Koh SAKAI

ID Test • EB-20 *"Nissui"*

(Identification Test Kit for Glucose fermentative Gram Negative bacilli)

Code		Package	Storage	Shelf Life
06626		25 tests	RT	1 year
06615	EB Plate	100 tests		
06616	EB Broth			
06628	EB Reagent		Cool	

Features of ID Test • EB-20

Identification of bacteria is very complicated and there are so many biochemical test need to be done. ID Test EB-20 is based on the theory of the numerical classification method, which could receive the combination with 20 kinds of biochemical reactions. Only small amount of sample (0.1 mL) is needed for each test item. Also the kit is stable for 1 year at room temperature.

Purpose of ID Test • EB-20

Identification of Glucose fermentative Gram Negative bacilli.

Directions for operation of the kit

Streak samples onto blood agar or other isolation medium. After incubation of the medium, confirm colonies will be tested are Gram Negative bacilli and Glucose fermentative. The test target bacteria shall be proliferated on enrichment medium.

Fish colonies from enrichment medium for adjustment the concentration (suspension) that corresponds to No.1 McFarland turbidity standard.

Inoculate 0.1 mL of above suspension into each well (20 wells). Layer 3-5 drops of sterilized liquid paraffin on 8 certain wells and incubate (place the cover on the plate and incubate at 37 °C for 18 – 20 hours.

After incubation, add 1 drop of 10% Ferric Chloride Test solution (PPA), Kovacs' Reagent (IND), 6% α-naphthol Test solution and 40% Potassium Hydroxide Test solution (VP) into certain wells.

After addition of specific reagents, compare the color developed with the attached color chart and determine as positive or negative results. Simultaneously, an oxidase test shall be performed and record in the result form.

Interpretations

Refer "ID Test EB-20 ANALYTICAL PROFILE" for identification.

Formula

Kit component (06626)	
ID Test EB Plate	25 plates x 20 wells
Sterilized Liquid Paraffin	20 mL x 1 vial
Result Form	13 sheets x 2 sets
ID Test EB Broth	2.5 mL x 25 tubes
Color Chart	1 sheet

Kit component (06628)	
10% Ferric Chloride Test solution	6 mL x 1 vial
Kovacs' Reagent	6 mL x 1 vial
6% α-naphthol Test solution	6 mL x 1 vial
40% Potassium Hydroxide Test solution	6 mL x 1 vial

Back to the Index

06626-20100203 Koh SAN

ID Test • EB-9 *"Nissui"*

(Identification Test Kit for intestinal bacilli)

Code		Package	Storage	Shelf Life
06673		50 tests	RT	1 year
06671	EB Reagent	100 tests	Cool	

Features of ID Test • EB-9

Identification of bacteria is very complicated and there are so many biochemical test need to be done. ID Test EB-9 is based on the theory of the numerical identification and microtest method, and is suitable for identification of gram negative, oxidase negative and glucose/lactose fermenting bacilli according to their 9 biochemical properties.
Two specimens will be simultaneously identified with one plate.
Major members of Enterrobacteriaceae will be identified with 18 hours incubation.
Package is so designed that many specimens will be economically tested.

Purpose of ID Test • EB-9

Identification of major intestinal bacilli.

Directions for operation of the kit

Streak the test specimen onto BTB Lactose Agar (Nissui Plate) or MacConkey Agar (Nissui Plate) or DHL Agar (Nissui Plate), over and culture for isolation of single colonies.
Confirm that the test bacteria on the siolation culture medium are gram-negative and also oxidase-negative rods and that they are glucose/lactose fermentative. These can be confirmed with Cytochrome oxidase test and TSI agar. Exclude other bacteria.
Culture the test bacterium on nutrient agar.

•Preparation of Bacterial Suspension :

Collect the test bacteria multiplied by culture on a loop and suspend them in one vial of ID Test. Adjust the concentration of bacteria to a level No.1 of McFarland.

•Inoculation of Bacterial Suspension:

Draw up the prepared bacterial solution suing a sterilized capillary piptte and inoculate into each well of the ID test Plate up to the step (0.1 mL).
After inoculation, add 3-5 drops of sterile liquid paraffin on top of the following 5 items (ARA, INO, LDC, ODC and URE) to form a stratified layer in order to isolate them from the air.
Place the cover on the plate and incubate at 35°C-37°C for 18-24 hours.

In the following two items, after incubation, add the following reagents and evaluate:

IND: Add 1 drop of Kovác's reagent.
VP: Add 1 drop of 6% α-Naphtol Reagent and also 1 drop of 40% Potassium Hydroxide.
Compare the results with the appended color chart and determine whether they are positive or negative.
Determine the species of bacteria by checking the code book provided.

Formula

Kit component (06673)	
EB-9 Plate	2 test x 25 plates
Sterilized Liquid Paraffin	20 mL x 2 tubes
Result Form	2 tests x 26 sheets
EB-9 Broth	1.5 mL x 50 tubes

Kit component (06671)	
Kovác's Reagent	6 mL x 1 tube
6% α-naphthol Test solution	6 mL x 1 tube
40% Potassium Hydroxide Test solution	6 mL x 1 tube

Back to the Index

06673-20100205 Koh SAN

Sterilized Oil Paraffin *"Nissui"*

(for ID Test)

Code	Form	Package	Storage	Shelf Life
06608	**Liquid**	**50 mL**	**RT**	**-**

Back to the Index

06608-20100205 Koh SAN

Quick ID GN *"Nissui"*

(Identification Test Kit for intestinal bacilli)

Code		Package	Storage	Shelf Life
08720		25 tests	RT	1 year
08721	Reagent	100 tests	Cool	

Features

The QUICK ID GN identification kit is a quick identification system based upon the theories of the microtest and the numerical classification methods. It is intended for the identification of clinically significant aerobic gram-negative bacilli of human origin with 4 hours according to the positive-negative color reactions for 14 biochemical tests includes 12 chromogenic substrate reactions.
The bacteria suspension is prepared by mixing a small amount of bacteria (one colony) .
The dispensing of bacteria suspension to the plate can be done with one step.
Only 4 hours aerobic incubation at 35°C-37°C is required.
Wells on the plate are arranged by a group of three tests for easier coding.

Directions for operation of the kit

The identification is not for use directly with clinical specimens. Use isolates from an agar plate such as said Agar plates.
The usefulness of the identification kit or any other diagnostic procedure performed on clinical specimens is directly influenced by the quality of the specimens themselves. It is strongly recommended that laboratories employ methods discussed in the Manual of Clinical Microbiology for specimen collection, transport and placement isolation media.

Procedure

Remove plate from pouch and discard a desiccant.
Take a GN Broth device. Using aseptic technique, pick one well isolated colony with the tip of a sterile applicator of the device
•from said Agar late.
Suspended a colony in the ID GN Broth device.
Recap and shake the device for several times to suspend well (the conc. of McF.#0.5 is preferable) .
•Pour entire contents of broth tube into the center well of plate.
Put on the lid and incubate for 4 hours at 35°C-37°C.

Reading

After 4 hours incubation, remove the plates from the incubator.
Refer to the Color Chart for an interpretation (Positive or Negative) of the reaction except for the item of ORO, PYR, IND and NIT.
These 4 items require the following additional procedure at room temperature to judge:
PRO and PYR: Add a drop of Cinnamaldehyde reagent and allow it to stand still for 5 minutes.
IND: Add a drop of Koác's reagent into the well of GC/I.
NIT: Add a drop of Nitrate reduction reagent into the well GL/N and allow it to stand still for 5 minutes.

Formula

Kit component (08720)	
Quick ID GN Plate	25 plates
Quick ID GN Broth	1 mL x 25 tubes
Result Form	26 sheets

Kit component (08721)	
Kovác's Reagent	6 mL x 1 tube
Cinnamaldehyde Reagent	6 mL x 2 tubes
Nitrate Reduction Reagent	6 mL x 1 tube

NISSUI PHARMACEUTICAL CO., LTD.

08720-20100205 Koh SAN

Salt Polymyxin Broth *"Nissui"*

(For enrichment of *Vibrio parahaemolyticus*)

Code	Form	Package	Storage	Shelf Life
05215	**Powder**	**100 g**	**Dry, RT**	**3 years**

Directions

Suspend 33.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute adequate amounts into test tubes or flasks and then sterilize by autoclaving at 121°C for 15 minutes. The amount of specimen is about one tenth of the medium. Incubate at 37°C overnight, then take a loopful of the culture and inoculate on a plate of the selective medium such as TCBS Agar.

Note

Incubation for 8 hours may be enough in an urgent case.
Do not incubate for more than 24 hours to prevent the growth of other bacteria.

Remarks

The medium is suitable for the enrichment culture of *Vibrio parahaemolyticus* from foods, especially from fish and fish-products, and for counting the number of bacteria (MPN values). Furthermore, it is suitable for cultivation of the materials that seem to be deficient in the number of *Vibrio parahaemolyticus*.

Features

The preservation of the medium after preparation is easy because the medium can be autoclaved.
Since Polymyxin B, a selective antibiotic, is unlikely to undergo its inactivation by metabolities of bacteria, the medium can be incubated overnight (up to 24 hours), and is also convenient for routine examination.

Formula

Components	In 33.0 g/L
Peptone	**10.0 g**
Yeast Extract	**3.0 g**
Sodium Chloride	**20.0 g**
Polymyxin B	**250,000 unit**
	pH 7.4 ±

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05215-20100205 Koh SAN

Alkaline Peptone Water *"Nissui"*

(Enrichment of *V. cholerae* and *V. parahaemolyticus*)

Code	Form	Package	Storage	Shelf Life
05206	**Powder**	**100 g**	**Dry, RT**	**3 years**

Directions

Suspend 20.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute about 10 mL of the medium into middle size of test tube and sterilize by autoclaving at 121°C for 15 minutes.
The medium is used for an enrichment medium of *Vibrio cholerae* as well as *Vibrio parahaemolyticus.* They grow mostly on the surface of the medium.

Remarks

Since the medium has a weak selectivity, an adequate incubation is at 37°C for 8 hours.

Formula

Components	In 20.0 g/L
Peptone	**10.0 g**
Sodium Chloride	**10.0 g**
	pH 8.8 ±

Back to the Index

05206-20100208 Koh SAN

Vibrio Agar *"Nissui"*

(Isolation of *V. cholerae* and *V. parahaemolyticus*)

Code	Form	Package	Storage	Shelf Life
05201	**Powder**	**300 g**	**Dry, RT**	**3 years**

Directions

Suspend 80.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute about 20 mL of the medium into Petri dishes without sterilization by autoclaving.

Determinations

After drying the surface of the plate, inoculate a larger amount of specimen than in case of other selective media, and incubate at 37 °C for 18 - 20 hours.

Saccharose fermentative bacteria such as *Vibrio cholerae* and *Vibrio alginolyticus* form blue colonies due to the color development of water blue. *Vibrio parahaemolyticus* forms slightly reddish and translucent colonies.

Remarks

The medium is a modification of DEC agar medium and is useful for the isolation of both *V. cholerae* and *V. parahaemolyticus*. The composition of taurocholate and sodium lauryl sulfate permits the growth of the pathogenic vibrios, while the addition of the indicators such as cresol red and water blue makes the color change of the colonies clear due to the fermentation of saccharose.

Formula

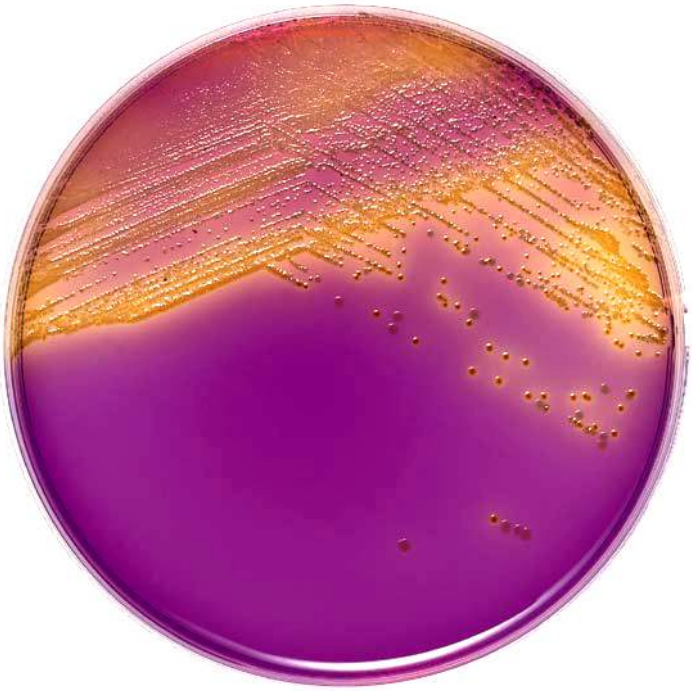
Components	In 80.0 g/L
Yeast Extract	5.0 g
Peptone	5.0 g
Sucrose	12.5 g
Sodium Taurocholate	5.0 g
Sodium Lauryl Sulfate	0.2 g
Sodium Citrate	8.0 g
Sodium Thiosulfate	8.5 g
Disodium Phosphate	7.5 g
Ferric Citrate	3.0 g
Sodium Chloride	10.0 g
Agar	15.0 g
Water Blue	0.2 g
Cresol Red	0.02 g
	pH 9.0 ±

Back to the Index

05201-20100208 Koh SAN

Polymyxin Mannose Tellurite Agar Base *"Nissui"*

(Isolation of El Tor cholera vibrio)



Code	Form	Package	Storage	Shelf Life
05208	Powder	240 g	Dry, RT	3 years

Directions

Suspend 60.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Cool the medium to about 60°C, add 1 mL of 0.1% aqueous solution of potassium tellurite and mix well. Distribute about 20 mL of the medium into Petri dishes. No sterilization such as autoclaving is required. Dry the surface of the medium before use.
After addition of 0.1% aqueous solution of potassium tellurite, do not reheat.

Determinations

Inoculate the specimens directly or after enrichment culture, and incubate at 37°C for 18 - 24 hours.
El Tor cholera vibrio forms yellow colonies with a brown center due to the fermentation of mannose. Other vibrios are mostly inhibited on the medium, but some organisms may grow on it. However, their colonies are smaller than those of El Tor cholera vibrio and have blue color. Thus, the differentiation of El Tor cholera vibrio is easy. As a few strains of NAG (non-agglutinable) vibrios form yellow colonies, careful observation is needed.

Remarks

The medium is designed to detect El Tor cholera vibrio from the specimens that are presumed to be contaminated with a relatively small number of the causative organisms. The first step of isolation for the specimen such as river water is the pre-enrichment in Alkaline Peptone Water at 35°C for 6 hours. Next, the culture is inoculated in Monsur Peptone Water, and incubate at 35°C for one night. Then the enrichment culture is placed onto PMT Agar.
El Tor cholera vibrio grown on the medium can clearly agglutinate the antiserum of *V. cholerae*.
When the medium is used for the clinical specimens such as diarrheal feces, it is desirable to use it in combination either with Vibrio Agar or with TCBS Agar simultaneously.

Formula

Components	In 60.0 g/L
Peptone	10.0 g
Meat Extract	5.0 g
Sodium Chloride	10.0 g
D-Mannose	20.0 g
Sodium Lauryl Sulfate	0.2 g
Polymyxin B	180,000 units
Brom Thymol Blue	0.04 g
Cresol Red	0.04 g
Agar	14.7 g
	pH 8.4 ±

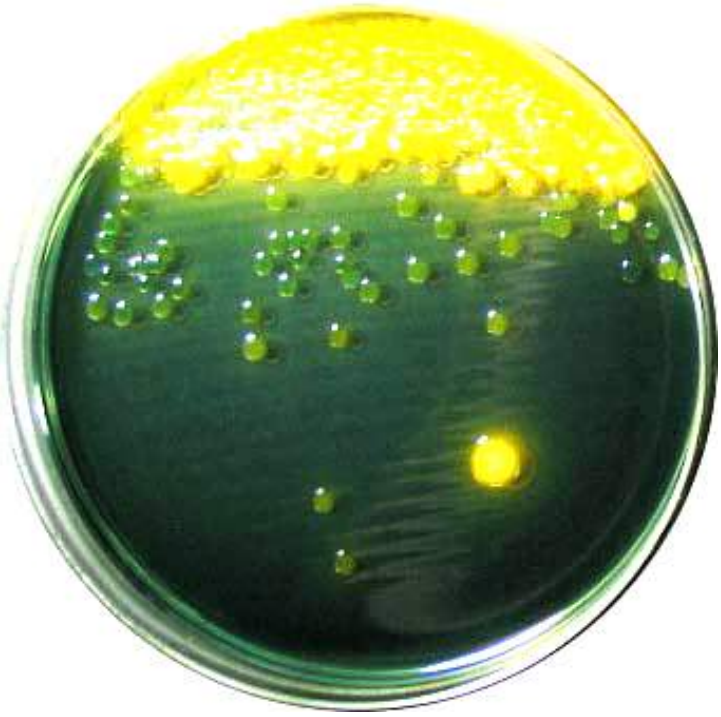
Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05208-20100208 Koh SAN

TCBS Agar *"Nissui"*

(Isolation of *V. cholerae* and *V. parahaemolyticus*)



Code	Form	Package	Storage	Shelf Life
05204	**Powder**	**300 g**	**Dry, RT**	**3 years**

Directions

Suspend 86.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute immediately about 20 mL of the medium into Petri dishes. **Do not autoclave**. Dry the surface of the medium before use.

Determinations

Inoculate the specimens directly or after enrichment culture, and incubate at 37 °C for 20 - 24 hours.

Saccharose fermentative bacteria such as *Vibrio cholerae* and *Vibrio alginolyticus* form turbid, yellow colonies, while saccharose non-fermentative bacteria such as *Vibrio parahaemolyticus* form colonies with a greenish blue center. Fecal streptococcus and *Proteus* may sometimes grow, but their colonies are very small, and the differentiation between them is easy.

Remarks

As the medium has high selectivity, the growths of gram-positive bacteria and gram-negative, non-pathogenic bacteria in feces are inhibited.

The procedure is very easy because sterilization is not required.

Note

It may be better to inoculate a larger amount of specimen than in case of the other selective media.

Formula

Components	In 86.0 g/L
Yeast Extract	5.0 g
Peptone	10.0 g
Sucrose	17.0 g
Sodium Thiosulfate	10.0 g
Sodium Citrate	10.0 g
Sodium Cholate	3.0 g
Ferric Citrate	1.0 g
Sodium Chloride	10.0 g
Oxgall	5.0 g
Brom Thymol Blue	0.04 g
Thymol Blue	0.04 g
Agar	15.0 g
	pH 8.8 ±

NISSUI PHARMACEUTICAL CO., LTD.

05204-20100208 Koh SAN

X-VP Agar *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05135	Powder	300 g	Dry, RT	3 years

Directions

Suspend 102.4 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute immediately about 20 mL of the medium into Petri dishes. **Do not autoclave**. Dry the surface of the medium before use.

Determinations

Inoculate the specimens directly or after enrichment culture, and incubate at 35-37 °C for 18-24 hours.
Vibrio parahaemolyticus form blue or blue green colonies, *Vibrio cholerae* and *Vibrio vulnificus* form purple colonies, *Vibrio alginolyticus* form milky colonise.

Remarks

As the medium has high selectivity, the growths of bacteria except *Vibrio* in feces are inhibited.

Formula

Components	In 102.4 g/L
Peptone	10.0 g
Yeast Extract	5.0 g
Sucrose	30.0 g
Sodium Thiosulfate	6.4 g
Sodium Citrate	10.0 g
Sodium Chloride	20.0 g
Sodium Pyruvate	5.0 g
Bile Salt	3.0 g
Selective Agents	0.27 g
Colorimetric Substrate by Enzyme	0.25 g
Agar	12.5 g
	pH 8.8 ±

Back to the Index

05135-20100208 Koh SAN

NAC Agar *"Nissui"*

(For non-fermentative gram-negative rod)

Code	Form	Package	Storage	Shelf Life
05220	**Powder**	**300 g**	**Dry, RT**	**3 years**

Directions

Suspend 35.7 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. An autoclaving is prohibited. Incubate at 35°C for 24-48 hours.

Remarks

The medium is developed to isolate *Pseudomonas aeruginosa*. The medium enrich the production of fluorescent pigment (pyocyanin and fluorescein) of *Pseudomonas aeruginosa,* which makes a differentiation easy.
Pseudomonas aeruginosa develops a colony with yellow-greenish fluorescent on the medium. Both gram positive and gram negative bacteria other than *Pseudomonas aeruginosa* are almost all inhibited on the medium.

Formula

Components	In 35.7 g/L
Peptone	**20.0 g**
Dipotassium Phosphate	**0.3 g**
Magnesium Sulfate	**0.2 g**
Cetrimide	**0.2 g**
Nalidixic acid	**0.015 g**
Agar	**15.0 g**
	pH 7.4 ±

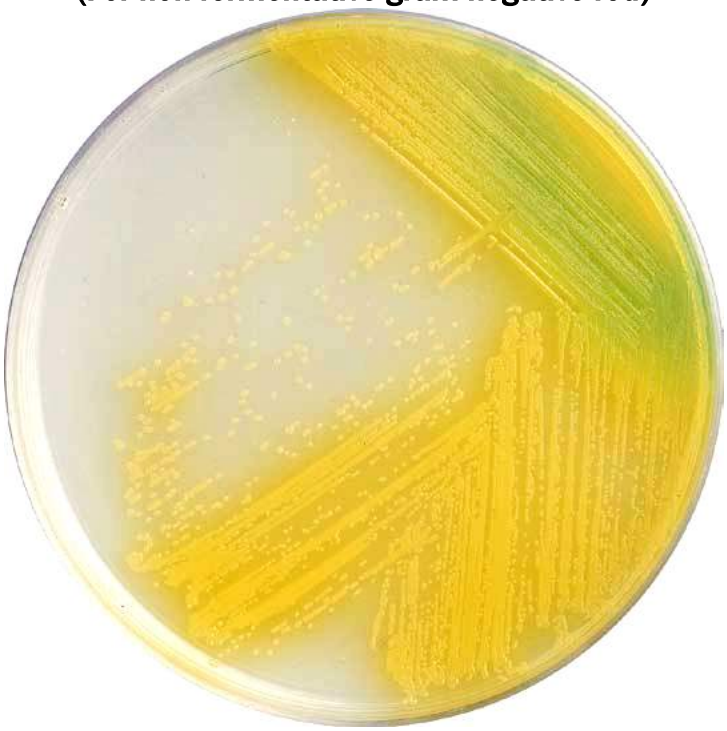
Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05220-20100208 Koh SAN

Cetrimide Agar *"Nissui"*

(For non-fermentative gram-negative rod)



Code	Form	Package	Storage	Shelf Life
05221	**Powder**	**300 g**	**Dry, RT**	**3 years**

Directions

Suspend 46.9 g of the dehydrated medium in 1,000 mL of distilled water, add 10 mL of glycerin, mix well and heat to dissolve the medium. Sterilize by autoclaving at 121°C for 15 minutes. Distribute about 20 mL of the medium into Petri dishes.Dry the surface of the medium before use. Incubate at 30-35°C for 18-72 hours.

Remarks

The medium is developed by Brown and Lowbury to isolate *Pseudomonas aeruginosa*. The medium enrich the production of fluorescent pigment (pyocyanin and fluorescein) of *Pseudomonas aeruginosa,* which makes a differentiation easy.
Pseudomonas aeruginosa develops a colony with yellow-greenish fluorescent on the medium. Both gram positive and gram negative bacteria other than *Pseudomonas aeruginosa* are almost all inhibited on the medium.

Formula

Components	In 46.9 g/L
Peptone	**20.0 g**
Magnesium Chloride	**3.0 g**
Potassium Sulfate	**10.0 g**
Cetrimide	**0.3 g**
Agar	**13.6 g**

pH 7.2 ± 0.2

Back to the Index

05221-20100208 Koh SAN

ID Test • NF-18 *"Nissui"*

(Identification Test Kit for Glucose Non-fermentative Gram Negative bacilli)

Code		Package	Storage	Shelf Life
06629		25 tests	RT	1 year
06617	NF Plate	100 tests		
06618	NF Broth			
06631	NF Reagent		Cool	

Features of ID Test NF-18

Identification of bacteria is very complicated and there are so many biochemical test need to be done. ID Test NF-18 is based on the theory of the numerical classification method, which could receive the combination with 18 kinds of biochemical reactions. Only small amount of sample (0.1 mL) is needed for each test item. Also the kit is stable for 1 year at room temperature.

Purpose of ID Test NF-18

Identification of Glucose Non-fermentative Gram Negative bacilli

Directions for operation of the kit

Streak samples onto blood agar or other isolation medium. After incubation of the medium, confirm colonies will be tested are Gram Negative bacilli and Glucose fermentative.
The test target bacteria shall be proliferated on enrichment medium.
Fish colonies from enrichment medium for adjustment the concentration (suspension) that corresponds to No.0.5 McFarland turbidity standard.
Inoculate 0.1 mL of above suspension into each well (18 wells).
Layer 3-5 drops of sterilized liquid paraffin on 9 certain wells and incubate (place the cover on the plate and incubate at 30 or 37 °C for 22 – 24 hours.
After incubation, add 1 drop of Kovacs' Reagent (IND), Nitrate Detection Test Solution (I and II) (NIT) into certain wells.
After addition of specific reagents, compare the color developed with the attached color chart and determine as positive or negative results. Simultaneously, an oxidase test shall be performed and record in the result form.

Interpretations

Refer "ID Test NF-18 ANALYTICAL PROFILE" for identification.

Formula

Kit component (06629)	
ID Test NF Plate	25 plates x 18 wells
Sterilized Liquid Paraffin	20 mL x 2 vial
Result Form	13 sheets x 2 sets
ID Test NF Broth	2.5 mL x 25 tubes
Color Chart	1 sheet

Kit component (06631)	
Nitrite Detection Test Solution I	6 mL x 1 vial
Kovács' Reagent	6 mL x 1 vial
Nitrite Detection Test Solution II	6 mL x 1 vial
Zinc Powder	6 mL x 1 vial

NISSUI PHARMACEUTICAL CO., LTD.

06629-20100208 Koh SAN

Staphylococcus Medium No. 110 *"Nissui"*

(Selective isolation medium for Staphylococci)

Code	Form	Package	Storage	Shelf Life
05234	**Granule**	**300 g**	**Dry, RT**	**3 years**

Directions

Suspend 150.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Sterilize by autoclaving at 121°C for 15 minutes. Distribute about 20 mL of the medium into Petri dishes. Dry the surface of the plate before use.

Determinations

Incubate at 30°C for 48 hours or 37°C for 43 hours.
Pathogenic staphylococci form yellowish or lemon-colored colonies on the medium and have abilities to utilize mannitol, to liquefy gelatin (positive to Stone reaction), to coagulate plasma and to hemolyze rabbit blood.

Remarks

Most of bacteria except staphylococci are inhibited on the medium, and some of the non-pathogenic staphylococci are also inhibited to some extent.
Pathogenic staphylococci generally form yellowish or lemon-colored colonies on the medium, while non-pathogenic strains form white ones.
The ability for producing pigment, utilizing mannitol and liquefying gelatin can be directly examined on the medium.

Formula

Components	In 150.0 g/L
Peptone	**10.0 g**
Yeast Extract	**2.5 g**
Gelatin	**30.0 g**
Mannitol	**10.0 g**
Sodium Chloride	**75.0 g**
Lactose	**2.0 g**
Dipotassium Phosphate	**5.0 g**
Agar	**15.0 g**
	pH 7.5 ±

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05234-20100208 Koh SAN

Mannitol Salt Agar *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05236	Granule	300 g	Dry, RT	3 years

Directions

Suspend 111.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Sterilize by autoclaving at 121°C for 15 minutes. Distribute about 20 mL of the medium into Petri dishes. Dry the surface of the plate before use.

Determinations

Incubate at 30-35°C for 18-72 hours.
When staphylococci, which utilize mannitol, grow on the medium, they form yellow colonies and turn the medium around the colonies yellow, and *Staphylococcus aureus* can easily be differentiated from non-pathogenic staphylococci and other bacteria that do not utilize mannitol and form red colonies.

Remarks

As the medium contains salt of high concentration, non-halophilic bacteria are inhibited to grow, and staphylococci are selectively isolated. The screening test of pathogenic staphylococci is performed by checking the ability to utilize mannitol.
For differential medium of coagulase positive staphylococci, add egg yolk solution to the medium. To prepare the 10% salt egg yolk agar medium, suspend 111.0 g of the dehydrated medium in 900 ml of distilled water, sterilize by autoclaving and cool down to 50°C, to which add 100 ml of egg yolk solution (mixture of about 20 g of egg yolk and 80 ml sterilized physiological saline solution).

Formula

Components	In 111.0 g/L
Peptone	10.1 g
Meat Extract	6.5 g
Sodium Chloride	71.3 g
Mannitol	9.2 g
Phenol Red	0.023 g
Agar	13.8 g

pH 7.4 ± 0.2

Back to the Index

05236-20100209 Koh SAN

Phenylethyl Alcohol Agar *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05246	Powder	100 g	Dry, RT	1 year

Directions

Suspend 42.5 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Sterilize by autoclaving at 121°C for 15 minutes. Distribute 20 mL of the medium into Petri dishes.
Use the medium within a day of its preparation, and do not preserve it. The medium, once solidified, should not be dissolved again.
For isolation of anaerobic bacteria, the incubation time should usually be 48 hours and 72 hours at the longest.

Remarks

The medium can be used for isolation of gram-positive cocci such as streptococci and staphylococci from the materials in which gram-negative bacteria such as *Escherichia coli* and *Proteus* coexist.
The gram-negative bacteria are mainly inhibited on the medium. Even if they grow on it, they form only small colonies. Blood agar prepared by adding blood to the medium in a ration of 5% is especially useful as the selective medium for the types of streptococci and anaerobic bacteria including obligate anaerobes and some of clostridia.

Formula

Components	In 42.5 g/L
Peptone	15.0 g
Soya Peptone	5.0 g
Sodium Chloride	5.0 g
Phenylethyl Alcohol	2.5 g
Agar	15.0 g
	pH 7.3 ±

Back to the Index

05246-20100209 Koh SAN

Salt Egg Yolk Agar Base *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05238	Granule	300 g	Dry, RT	3 years

Directions

Suspend 115.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Sterilize by autoclaving at 121°C for 15 minutes. Cool down to approximately 50-60°C. Add an egg yolk suspension in a ratio of 10% with thorough mixing. Distribute about 20 mL of the medium into Petri dishes. Dry the surface of the plate before use.

For preparation of an egg yolk suspension, aseptically add one egg yolk to 30 ml of 10% sterilized sodium chloride solution, and make homogeneous egg yolk suspension by thorough mixing. It is advisable to take the egg yolk from an egg that weights more than 50 g.

Determinations

Inoculate the specimens on the plate and incubate at 37°C for 24–40 hours. Coagulase-positive staphylococci form clear yellow or lemon-colored colonies. In 20 hours of incubation in a short-time case or in 40 hours at the longest, the colonies opacify the medium in ring shapes from the lower part of the colonies. In 18 – 24 hours of incubation pearly-lustrous rings like those made by oil drops falling upon the water surface are formed around the colonies on the medium. Therefore, even the pearly-lustrous rings alone can serve as a means of differentiation of coagulase-positive staphylococci. Colonies of coagulase-negative staphylococci are rather opaque and do not form pearly-lustrous rings or opacify the medium.

Formula

Components	In 115.0 g/L
Heart Extract Powder	5.0 g
Peptone	10.0 g
Sodium Chloride	70.0 g
Lithium Chloride	5.0 g
Mannitol	10.0 g
Agar	15.0 g
	pH 7.3 ±

Back to the Index

05238-20100209 Koh SAN

N-ID Test • SP-18 *"Nissui"*

(Identification Test Kit for Staphylococci)

Code		Package	Storage	Shelf Life
06637		25 tests	RT	1 year
06613	SP Plate	100 tests		
06614	SP Broth			
06638	SP Reagent		Cool	

Features of N-ID Test SP-18

Identification of bacteria is very complicated and there are so many biochemical test need to be done. N-ID Test SP-18 is based on the theory of the numerical classification method, which could receive the combination with 18 kinds of biochemical reactions. Only small amount of sample (0.1 mL) is needed for each test item. Also the kit is stable for 1 year at room temperature.

Purpose of ID Test NF-18

For identification of various species of Staphylococci.

Directions for operation of the kit

Streak samples onto blood agar or other isolation medium. After incubation of the medium, confirm colonies will be tested are Gram Negative bacilli and Glucose fermentative.
The test target bacteria shall be proliferated on enrichment medium.
Fish colonies from enrichment medium for adjustment the concentration (suspension) that corresponds to No.3 McFarland turbidity standard.
Inoculate 0.1 mL of above suspension into each well (18 wells).
Layer 3-5 drops of sterilized liquid paraffin on 2 certain wells and incubate (place the cover on the plate and incubate at 30 or 37 °C for 22 – 24 hours. (Wells 1 and 2 are empty wells and inoculation of bacterial sample solution is not necessary.
After incubation, add 1 drop of Kovacs' Reagent (IND), 6% α-naphthol and 40% Potassium Hydroxide Test solution (VP) into certain wells.
After addition of specific reagents, compare the color developed with the attached color chart and determine as positive or negative results.

Interpretations

Refer "N-ID Test SP-18 ANALYTICAL PROFILE" for identification.

Formula

Kit component (06637)	
N-ID Test SP Plate	25 plates x 18 wells
Sterilized Liquid Paraffin	20 mL x 1 vial
Result Form	13 sheets x 2 sets
N-ID Test SP Broth	2.5 mL x 25 tubes
Color Chart	1 sheet

Kit component (06638)	
6% α-naphthol Test solution	6 mL x 1 vial
40% Potassium Hydroxide Test solution	6 mL x 1 vial
Nitrite Detection Test Solution I	6 mL x 1 vial
Nitrite Detection Test Solution II	6 mL x 1 vial

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

06637-20100209 Koh SAN

ID Test • HN-20 Rapid *"Nissui"*

(For Identification of *Haemophilus* and *Neisseria*)

Code		Package	Storage	Shelf Life
06635		25 tests	RT	1 year
06640	Reagent	100 tests	Cool	

Features

ID TEST • NH-20 Rapid "*Nissui*" has been developed based on the theory of the microtest method and numerical classification. With this method, *Haemophilus* and *Neisseria* are identified rapidly in 4-hour incubation from positive or negative patterns of 20 different biochemical properties.

In this system, results can be obtained which those of conventional methods with respect to the gram-negative bacteria of *Neisseria*, *Pasteurella*, including *Haemophilus*, or the bacteria of extremely weak growth such as *Gardnerella* or *Eikenella*.

Moreover, identification includes simultaneous confirmation of β-lactamase production by the β-lactamase test.

Formula

Kit component (06635)	
ID Test HN Plate	25 plates x 20 wells
ID Test HN Broth	2.5 mL x 25 tubes20 mL x 1 vial
Result Form	13 sheets x 2 sets
β-lactamase Detection Reagent	3 mL x 1 vial
Sterilized Liquid Paraffin	20 mL x 1 vial

Kit component (06640)	
Kovács' Reagent	6 mL x 1 vial
Nitrite Detection Test Solution I	6 mL x 1 vial
Nitrite Detection Test Solution II	6 mL x 1 vial
Zinc Powder	2.5 g x 1 vial

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

06640-20100209 Koh SAN

GAM Agar *"Nissui"*

(Gifu Anaerobic Medium Agar, For common culture and susceptibility test)

Code	Form	Package	Storage	Shelf Life
05420	**Powder**	**300 g**	**Dry, RT**	**3 years**

Directions

Suspend 74.0 g of the dehydrated medium in 1,000 mL of distilled water, and heat to dissolve the medium. Sterilize by autoclaving at 115°C for 15 minutes. Distribute 20 mL amounts of the medium into Petri dishes.
Prepared medium should be used in a day of preparation, or keep in anaerobic condition.

Remark

The medium is developed by Medical School of Gifu University, Japan to isolate and culture anaerobic bacteria from clinical specimens. The medium is also used for susceptibility tests other than sulfa drugs.

Formula

Components	In 74.0 g/L
Peptone	10.0 g
Soya Peptone	3.0 g
Proteose Peptone	10.0 g
Digested Serum	13.5 g
Yeast Extract	5.0 g
Meat Extract	2.2 g
Liver Extract	1.2 g
Dextrose	3.0 g
Potassium Dihydrogen Phosphate	2.5 g
Sodium Chloride	3.0 g
Soluble Starch	5.0 g
L-Cysteine Hydrochloride	0.3 g
Sodium Thioglycollate	0.3 g
Agar	15.0 g
	pH 7.1 ±

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05420-20100210 Koh

GAM Agar, Modified *"Nissui"*

(Gifu Anaerobic Medium Agar, Modified, For common culture and susceptibility test)

Code	Form	Package	Storage	Shelf Life
05426	**Powder**	**300 g**	**Dry, RT**	**3 years**

Directions

Suspend 56.7 g of the dehydrated medium in 1,000 mL of distilled water, and heat to dissolve the medium. Sterilize by autoclaving at 115°C for 15 minutes. Distribute 20 mL amounts of the medium into Petri dishes.
Prepared medium should be used in a day of preparation, or keep in anaerobic condition.

Remark

The medium is a modified medium of GAM Agar that is developed by Medical School of Gifu University, Japan to isolate and culture anaerobic bacteria from clinical specimens. The medium is also used for susceptibility tests other than sulfa drugs.
Color of the medium is more pale and better transparency.

Formula

Components	In 56.7 g/L
Peptone	5.0 g
Soya Peptone	3.0 g
Proteose Peptone	5.0 g
Digested Serum	10.0 g
Yeast Extract	2.5 g
Meat Extract	2.2 g
Liver Extract	1.2 g
Dextrose	0.5 g
Soluble Starch	5.0 g
L-Tryptophan	0.2 g
L-Cysteine Hydrochloride	0.3 g
Sodium Thioglycollate	0.3 g
L-Arginine	1.0 g
Vitamin K_1	5 mg
Hemin	10 mg
Potassium Dihydrogen Phosphate	2.5 g
Sodium Chloride	3.0 g
Agar	15.0 g
	pH 7.3 ±

NISSUI PHARMACEUTICAL CO., LTD.

05426-20100210 Koh SAN

GAM Broth, Modified *"Nissui"*

(Gifu Anaerobic Medium Broth, Modified, For common culture and susceptibility test)

Code	Form	Package	Storage	Shelf Life
05433	Powder	100 g	Dry, RT	3 years

Directions

Suspend 41.7 g of the dehydrated medium in 1,000 mL of distilled water, and heat to dissolve the medium. Distribute the medium into appropriate containers. Sterilize by autoclaving at 115°C for 15 minutes, and cool down quickly (Do not shake the medium!).

Remark

The composition of the medium is exactly same as GAM Agar, Modified excluding agar. The medium is liquid and used for isolation and cultivation of anaerobic bacteria from clinical specimens. The medium is also used for susceptibility tests other than sulfa drugs, in particular for the micro liquid dilution method of anaerobic bacteria.

Formula

Components	In 41.7 g/L
Peptone	5.0 g
Soya Peptone	3.0 g
Proteose Peptone	5.0 g
Digested Serum	10.0 g
Yeast Extract	2.5 g
Meat Extract	2.2 g
Liver Extract	1.2 g
Dextrose	0.5 g
Soluble Starch	5.0 g
L-Tryptophan	0.2 g
L-Cysteine Hydrochloride	0.3 g
Sodium Thioglycollate	0.3 g
L-Arginine	1.0 g
Vitamin K_1	5 mg
Hemin	10 mg
Potassium Dihydrogen Phosphate	2.5 g
Sodium Chloride	3.0 g
	pH 7.3 ±

Back to the Index

05433-20100210 Koh SAN

GAM Broth *"Nissui"*

(Gifu Anaerobic Medium Broth, For common culture and susceptibility test)

Code	Form	Package	Storage	Shelf Life
05422	**Powder**	**300 g**	**Dry, RT**	**3 years**

Directions

Suspend 59.0 g of the dehydrated medium in 1,000 mL of distilled water, and heat to dissolve the medium. Distribute the medium into test tubes or flasks and sterilize by autoclaving at 115°C for 15 minutes.
For cultivation of anaerobic bacteria, cool the medium immediately after the sterilization in running water without shaking or moving, inoculate the organisms at once with a sterilized capillary or a Pasteur pipette, and incubate under the anaerobic condition.

Remark

This is a liquid medium for anaerobic bacteria. Agar is removed from GAM Agar "Nissui". As the medium contains the digested serum that has hemin, it is successfully used for cultivation of anaerobic bacteria. It has a broad application to other microorganisms such as streptococci, pneumococci and meningococci.
The medium is also suitable for blood culture.

Formula

Components	In 59.0 g/L
Peptone	10.0 g
Soya Peptone	3.0 g
Proteose Peptone	10.0 g
Digested Serum	13.5 g
Yeast Extract	5.0 g
Meat Extract	2.2 g
Liver Extract	1.2 g
Dextrose	3.0 g
Potassium Dihydrogen Phosphate	2.5 g
Sodium Chloride	3.0 g
Soluble Starch	5.0 g
L-Cysteine Hydrochloride	0.3 g
Sodium Thioglycollate	0.3 g
	pH 7.1 ±

Back to the Index

05422-20100210 Koh SAN

GAM Semisolid without Dextrose *"Nissui"*

(Gifu Anaerobic Medium Semisolid without Dextrose, For identification and strain preservation)

Code	Form	Package	Storage	Shelf Life
05460	**Powder**	**100 g**	**Dry, RT**	**3 years**

Directions

Suspend 52.5 g of the dehydrated medium in 1,000 mL of distilled water, and heat to dissolve the medium. Distribute the medium into test tubes (1.5 × 15 cm or 0.9 × 15 cm is recommended) up to a level slightly higher than the middle (about 16 mL). Sterilize by autoclaving at 115 °C for 15 minutes, and immediately cool down to a stab culture agar.
Store at room temperature in a dark place. Do not store in refrigerator.

Remark

The medium is devised as a basal medium for testing the carbohydrate utilization by anaerobes. It is suitable for tests of various biochemical properties, motility and preservation of anaerobes.

Formula

Components	In 52.5 g/L
Peptone	10.0 g
Soya Peptone	3.0 g
Proteose Peptone	10.0 g
Digested Serum	13.5 g
Yeast Extract	5.0 g
Meat Extract	2.2 g
Liver Extract	1.2 g
Potassium Dihydrogen Phosphate	2.5 g
Sodium Chloride	3.0 g
L-Cysteine Hydrochloride	0.3 g
Sodium Thioglycollate	0.3 g
Agar	1.5 g
	pH 7.1 ±

Back to the Index

05460-20100212 Koh SAN

GAM Semisolid *"Nissui"*

(Gifu Anaerobic Medium, For cultivation of clinical specimens and preservation of organisms)

Code	Form	Package	Storage	Shelf Life
05424	Powder	100 g	Dry, RT	3 years

Directions

Suspend 60.5 g of the dehydrated medium in 1,000 mL of distilled water, and heat to dissolve the medium. Distribute the medium into test tubes .
Sterilize by autoclaving at 115 °C for 15 minutes. Store them at room temperature in a dark place. Do not store in the refrigerator.

Determinations

Obligate anaerobes dislike the part 5 – 10 mm below the surface of the medium and grow in the lower part. Obligate aerobes grow in the upper part and facultative anaerobes grow throughout the medium. However, judgement is difficult in case of gas-producing bacteria.

Remark

The medium is a semisolid medium devised by reducing the agar content of GAM Agar. As the medium permits rapid growth of aerobes as well as anaerobes, it is suitable for culture of blood, puncture fluid and other various materials, and for cultivation and preservation of anaerobes.
The major character of the medium is to allow active proliferation of anaerobes in the air without using a special apparatus for the anaerobic condition.

Formula

Components	In 60.5 g/L
Peptone	10.0 g
Soya Peptone	3.0 g
Proteose Peptone	10.0 g
Digested Serum	13.5 g
Yeast Extract	5.0 g
Meat Extract	2.2 g
Liver Extract	1.2 g
Dextrose	3.0 g
Potassium Dihydrogen Phosphate	2.5 g
Sodium Chloride	3.0 g
Soluble Starch	5.0 g
L-Cysteine Hydrochloride	0.3 g
Sodium Thioglycollate	0.3 g
Agar	1.5 g
	pH 7.1 ±

Back to the Index

05424-20100212 Koh SAKAI

CW Agar Base without Kanamycin *"Nissui"*

(Clostridium welchii Agar base without Kanamycin, For examination of heated materials)

Code	Form	Package	Storage	Shelf Life
05404	**Powder**	**100 g**	**Dry, RT**	**3 years**

Directions

Suspend 60.0 g of the dehydrated medium in 900 mL of distilled water, mix well and heat to dissolve the medium. Sterilize by autoclaving at 121°C for 15 minutes. Maintain the sterilized medium at about 50°C, add 100 mL of the egg yolk saline suspension or defibrinated blood. Mix well and distribute about 20 ml into Petri dishes. To prepare a 100 mL of egg yolk solution, mix about 20 g of egg yolk with 80 mL sterilized physiological saline solution.

Determinations

After drying the surface of the plate, smear the heated material, and incubate for 15 – 20 hours under anaerobic condition. *Clostridium welchii (perfringens)* forms yellowish white, round, convex colonies with a glistering surface and surrounded by a pearly ray zone (opacity of the medium).

On the medium added with defibrinated blood instead of egg yolk, Clostridium welchii (perfringens) forms colonies of the same type with a glistering surface and a hemolytic ring. When the colonies are exposed to the air in an incubator, they will turn green.

Formula

Components	In 60.0 g/L
Heart Extract	5.0 g
Proteose Peptone	10.0 g
Peptone	10.0 g
Sodium Chloride	5.0 g
Lactose	10.0 g
Phenol Red	0.05 g
Agar	20.0 g
	pH 7.2 ±

Back to the Index

05404-20100212 Koh SAN

CW Agar Base without Kanamycin *"Nissui"*

(Clostridium welchii Agar base with Kanamycin, For examination of unheated materials)

Code	Form	Package	Storage	Shelf Life
05405	**Powder**	**100 g**	**Dry, RT**	**3 years**

Directions

Suspend 60.0 g of the dehydrated medium in 900 mL of distilled water, mix well and heat to dissolve the medium. The heating should be done for less than 90 minutes, Maintain the medium at about 50 °C, add 100 mL of the egg yolk saline suspension. Mix well and distribute about 20 mL into Petri dishes. When a *C.perfringens* Differentiation Strip is used, place the stick into the center of medium before it solidifies.

To prepare a 100 mL of egg yolk solution, mix about 20 g of egg yolk with 80 mL sterilized physiological saline solution.

Determinations

After drying the surface of the plate, smear the unheated material, and incubate for 15 – 20 hours under anaerobic condition. *Clostridium welchii (perfringens)* forms yellowish white, round, convex colonies with a glistering surface and surrounded by a pearly ray zone (opacity of the medium).

On the medium added with defibrinated blood instead of egg yolk, *Clostridium welchii (perfringens)* forms colonies of the same type with a glistering surface and a hemolytic ring. When the colonies are exposed to the air in an incubator, they will turn green.

Formula

Components	In 60.0 g/L
Heart Extract	5.0 g
Proteose Peptone	10.0 g
Peptone	10.0 g
Sodium Chloride	5.0 g
Lactose	10.0 g
Phenol Red	0.05 g
Kanamycin Sulfate	0.2 g
Agar	20.0 g
	pH 7.2 ±

Back to the Index

05405-20100212 Koh SAN

Bacteroides Agar *"Nissui"*

(For differentiation and isolation of Bacteroides)

Code	Form	Package	Storage	Shelf Life
05440	Powder	100 g	Dry, RT	3 years

Directions

Suspend 74.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Sterilize by autoclaving at 121 °C for 15 minutes, and distribute the medium into Petri dishes. Dry the surface sufficiently before use. It is desirable to use the plate within 3 – 5 hours after preparation.

Determinations

Differentiation: The medium is able to identify *Bacteroides* from the organisms that are isolated from clinical specimens and confirmed to be asporogenic gram-negative bacilli of obligate anaerobes. Inoculate the bacilli into GAM Semisolid "Nissui" and incubate for 24 – 48 hours. Take the organisms, streak the surface of the plate, and incubate at 37 °C for 24 – 48 hours under an anaerobic condition. The organisms are identified as *Bacteroides*, when they grow well on this plate.

Selective isolation: When clinical specimens are considered to be lightly contaminated with other organisms, *Bacteroides* can be isolated selectively by smearing them directly. (*Fusobacterium* does not grow on this medium, but some aerobic cocci may grow on it).

For the quantitative culture, dilute a sample with the following solution (prepared by 1/15 M phosphate-buffered solution, pH 7.2, containing 1 g of polysorbate 80.1 g of L-cysteine hydrochloride and 1 g of agar per liter by autoclaving at 110 °C for 15 minutes).

Remarks

The medium was devised for the differentiation of *Bacteroides*. Colistin, neomycin and brilliant green have no influence on the growth of *Bacteroides* but inhibit *Fusobacterium* and other bacteria. Asporogenic gram-negative bacilli taken from the clinical specimens are mainly *Bacteroides* or *Fusobacterium*. The medium also permits the selective growth of *Bacteroides* from the clinical specimens.

Formula

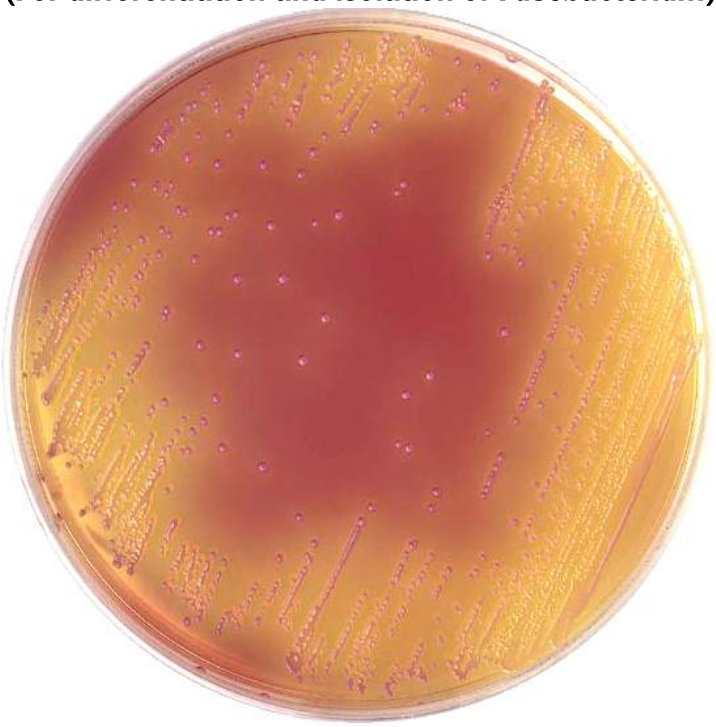
Components	In 74.0 g/L
Peptone	20.0 g
Soya Peptone	1.5 g
Digested Serum	6.75 g
Liver Extract	0.6 g
Meat Extract	6.15 g
Yeast Extract	10.0 g
Hemin	0.003 g
Dextrose	3.0 g
Sodium Chloride	3.0 g
Potassium Dihydrogen Phosphate	2.5 g
Soluble Starch	5.0 g
L-Cysteine Hydrochloride	0.3 g
Sodium Thioglycollate	0.3 g
Colistin	1,000,000 units
Neomycin	0.2 g
Brilliant Green	0.001 g
Agar	14.7 g
	pH 7.1 ±

Back to the Index

05440-20100212 Koh SAN

FM Agar, Modified *"Nissui"*

(For differentiation and isolation of *Fusobacterium*)



Code	Form	Package	Storage	Shelf Life
05441	**Powder**	**100 g**	**Dry, RT**	**3 years**

Directions

Suspend 74.0 g of the dehydrated medium in 1,000 mL of distilled water, and heat to dissolve the medium. Do not sterilize by autoclaving. Distribute the medium into Petri dishes.

Determination

The medium is designed to differentiate *Fusobacterium*. Neomycin and crystal violet have no influence on the growth of *Fusobacterium,* but inhibit *Bacteroides* and other bacteria.
Since it is well known fact that almost all gram-negative rods, which do not form spore, are *Fusobacterium* and *Bacteroides*., the medium is used for the isolation of *Fusobacterium.* Among of non-spore forming, gram-negative anaerobic rods, the bacteria grown on the medium is to be identified as *Fusobacterium.*

Remarks

To prepare the medium, heating should be minimum, and use the medium in 3 – 5 hours after preparation.
Incubate the medium avoiding excess disclosure to the air.

Formula

Components	In 74.0 g/L
Peptone	20.0 g
Soya Peptone	1.5 g
Digested Serum	6.75 g
Liver Extract	0.6 g
Meat Extract	6.15 g
Yeast Extract	10.0 g
Dextrose	3.0 g
Potassium Dihydrogen Phosphate	2.5 g
Sodium Chloride	3.0 g
Soluble Starch	5.0 g
L-Cysteine Hydrochloride	0.3 g
Sodium Thioglycollate	0.3 g
Neomycin	0.2 g
Crystal Violet	0.01 g
Agar	14.7 g
	pH 7.1 ±

Back to the Index

05441-20100212 Koh SAWA

GAM Agar with Gentamicin *"Nissui"*

(For selective isolation of anaerobes)

Code	Form	Package	Storage	Shelf Life
05450	Powder	300 g	Dry, RT	3 years

Directions

Suspend 74.0 g of the dehydrated medium in 1,000 mL of distilled water, and heat to dissolve the medium. Sterilize by autoclaving at 115 °C for 15 minutes. Distribute about 20 mL of medium into Petri dishes.

Determination

Smear the specimens and incubate under the anaerobic condition.
Most of organisms that grow anaerobically on this medium may be considered as anaerobes. However, when the specimens are contaminated with gentamicin-resistant facultative anaerobes, they may grow on this medium. Thus, it is necessary to confirm if the anaerobes do not grow on this medium under the aerobic condition.

Remarks

The medium was designed for the separation of anaerobes from the specimens that are suspected to be contaminated with aerobes. On the medium, almost all anaerobes including *Bacteroides, Fusobacterium, Actinomyces, Peptococcus, Peptostreptococcus, Veillonella* and *Clostridium* grow well, while many aerobes do not.

The selectivity of the medium is based on the fact that anaerobes are resistant to gentamicin but aerobes are not.

Formula

Components	In 74.0 g/L
Peptone	10.0 g
Soya Peptone	3.0 g
Proteose Peptone	10.0 g
Digested Serum	13.5 g
Yeast Extract	5.0 g
Meat Extract	2.2 g
Liver Extract	1.2 g
Dextrose	3.0 g
Potassium Dihydrogen Phosphate	2.5 g
Sodium Chloride	3.0 g
Soluble Starch	5.0 g
L-Cysteine Hydrochloride	0.3 g
Sodium Thioglycollate	0.3 g
Gentamicin	25 mg
Agar	15.0 g
	pH 7.1 ±

NISSUI PHARMACEUTICAL CO., LTD.

05450-20100212 Koh

BL Agar *"Nissui"*

(For isolation of anaerobes and differentiation of *Bifidobacterium*)

Code	Form	Package	Storage	Shelf Life
05430	**Powder**	**300 g**	**Dry, RT**	**3 years**

Directions

Suspend 58.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Sterilized by autoclaving at 115 °C for 20 minutes. After cooling to 50 °C, add defibrinated horse blood in the ratio of 5 percent and mix well. Distribute into Petri dishes, and solidify. Dry the surface before use.

Determinations

Bifidobacterium generally forms smooth and brown or dark brown colonies. Some enteric bacteria form red colonies. For the details, see the "World of Intestinal Bacteria" written by Dr. Tomotari Mitsuoka.

Remarks

The medium permits the growth of anaerobic bacteria, especially lactobacilli and enables to differentiate various bacteria easily because they will each form characteristic colonies.

Formula

Components	In 58.0 g/L
Meat Extract	2.4 g
Proteose Peptone	10.0 g
Peptone	5.0 g
Soya Peptone	3.0 g
Yeast Extract	5.0 g
Liver Extract	3.2 g
Dextrose	10.0 g
Soluble Starch	0.5 g
Monopotassium Phosphate	1.0 g
Potassium Dihydrogen Phosphate	1.0 g
Magnesium Sulfate	0.2 g
Ferrous Sulfate	0.01 g
Sodium Chloride	0.01 g
Manganese Sulfate	0.007 g
Bubble Absorbing Agent (Silicon)	0.2 g
Polysorbate 80	1.0 g
L-Cysteine Hydrochloride	0.5 g
Agar	15.0 g
	pH 7.2 ±

NISSUI PHARMACEUTICAL CO., LTD.

05430-20100215 Koh

Clostridia Count Agar *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05409	Powder	300 g	Dry, RT	3 years

Directions

Suspend 70.3 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Sterilize by autoclaving at 121°C for 15 minutes, and keep the medium at about 55°C. Distribute 15 mL of medium into the anaerobic culture pouch in which 10 mL of sample has distributed. Mix well, and weld to seal the neck of the pouch after removing air bubbles. Incubate at 37±1°C for 24±2 hours.

Remarks

The medium is used for the colony counting of Clostridia (Spore forming, sulfurous acid reducing anaerobic bacterium) in foodstuff. Clostridia develop colonies with brown to black color by reducing sulfurous acid, while others develop light white colonies.

Formula

Components	In 70.3 g/L
Mixed Peptone	15.0 g
Soya Peptone	7.5 g
Yeast Extract	7.5 g
Beef Extract	7.5 g
Ferric Ammonium Citrate	1.0 g
Sodium Hydrogen Sulfite	1.0 g
L-Cysteine Chloride	0.75 g
Agar	30.0 g

pH 7.6 ±

Back to the Index

05409-20100215 Koh SAN

NGKG Agar Base *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05282	Granule	300 g	Dry, RT	3 years

Directions

Suspend 26.5 g of the dehydrated medium in 900 mL of distilled water, mix well and heat to dissolve the medium. Sterilize by autoclaving at 121°C for 15 minutes. Maintain the medium at about 50°C, add 100 mL of 20% egg-yolk suspension, mix well and distribute about 20 mL amounts into Petri dishes.

For the preparation of egg-yolk suspension, add 20 mL of egg-yolk to 80 mL of sterilized saline solution aseptically, and mix well.

Determinations

After drying the surface of the plate, smear the specimens and incubate at 30°C for 18 – 24 hours.

B. cereus forms white and slightly thick colonies with an irregular margin on the medium and shows the lecithinase reaction. In case of the lecithinase reaction, their colonies form a zone of opacity, and the medium around the colonies presents a red color. The growth of miscellaneous bacteria except *B. cereus* may be inhibited. Even if some bacteria grow, their colonies are small and do not show the lecithinase reaction.

Remarks

The medium was designed for the selection and detection of *B. cereus* from the contaminated foods.

On the medium, the spores of *B. cereus* are formed well. After incubation at 30°C for 18 hours, the sporulation can be determined by observing them microscopically.

Formula

Components	In 26.5 g/L
Peptone	1.0 g
Yeast Extract	0.5 g
Sodium Chloride	4.0 g
Glycine	3.0 g
Polymyxin B Sulfate	50,000 units
Phenol Red	0.025 g
Agar	18.0 g
	pH 6.8 ±

Back to the Index

05282-20100215 Koh SAN

Sensitivity Disk Agar-N *"Nissui"*

(For sensitivity test)

Code	Form	Package	Storage	Shelf Life
05530	**Powder**	**300 g**	**Dry, RT**	**3 years**

Directions

Suspend 38.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Sterilize by autoclaving at 115°C for 15 minutes. Distribute 20 mL into Petri dishes to attain a thickness of 4 mm. (A round Petri dish with diameter of 9 cm gives 4 mm thickness with 20 mL medium).

Remarks

The medium is a modification of Mueller Hinton medium, and does not inactivate sulfa drugs and any other antibiotics.
The medium has a fixed quantity of calcium ion and magnesium ion based on the recommendation of WHO, and provides a correct inhibitory zone against aminoglycosides and tetracyclines.
Since the salt concentration affects the diffusion of the antibiotics, the salt concentration in the medium is exactly maintained at 0.8%.
The medium is also used for an agar plate method.

Formula

Components	In 38.0 g/L
Casamino Acid	16.5 g
Heart Extract Powder	3.0 g
Soluble Starch	1.5 g
Dextrose	2.0 g
L-Tryptophan	0.05 g
L-Cystine	0.05 g
Biotin	5 µg
Agar	15.0 g
	pH 7.3 ±

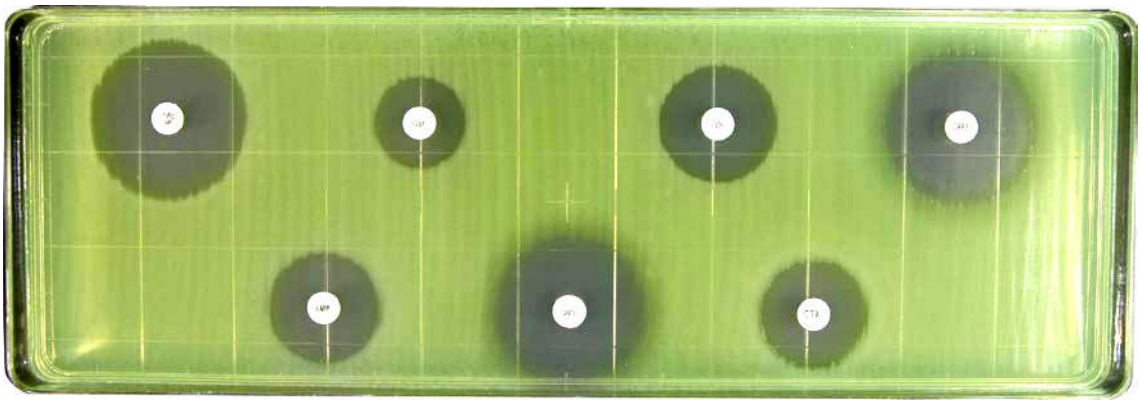
Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05530-20100215 Koh SAKAI

Mueller-Hinton Agar-N *"Nissui"*

(For isolation of general bacteria)



Code	Form	Package	Storage	Shelf Life
05533	**Powder**	**300 g**	**Dry, RT**	**3 years**

Directions

Suspend 38.0 g of the dehydrated medium in 1,000 mL of distilled water; mix well and heat to dissolve the medium. Sterilize by autoclaving at 121°C for 15 minutes. Use for plates and thickness of medium shall be 4 mm (for 9 cm plate, pour 25 mL of autoclaved medium).

Remarks

This medium is also fit for Anti-susceptibility testing which applicable for K-B method (following to NCCLS document M2-A6).

Formula

Components	In 38.0 g/L
Beef extract	**2.0 g**
Casamino acid	**17.5 g**
Soluble starch	**1.5 g**
Agar	**17.0 g**
	pH 7.3 ±

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05533-20100215 Koh SAN

Sensitivity Test Broth *"Nissui"*

(For MIC tests)

Code	Form	Package	Storage	Shelf Life
05534	**Powder**	**300 g**	**Dry, RT**	**3 years**

Directions

Suspend 23.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute an adequate amount into test tubes or flasks, and sterilize by autoclaving at 115 °C for 15 minutes.

Remarks

The medium is a modification of Mueller Hinton medium, and does not inactivate sulfa drugs and any other antibiotics. The medium is used when fluid medium is preferable.

Storage

The medium is extremely hygroscopic, and stored in the desiccator closed tightly.

Formula

Components	In 23.0 g/L
Casamino Acid	16.5 g
Heart Extract Powder	3.0 g
Soluble Starch	1.5 g
Dextrose	2.0 g
L-Tryptophan	0.05 g
L-Cystine	0.05 g
Biotin	5 µg
	pH 7.4 ±

Back to the Index

05534201002I5 Koh SAI

Heart Infusion Agar *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05503	Granule	300 g	Dry, RT	3 years

Directions

Suspend 40.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Sterilize by autoclaving at 121°C for 15 minutes. Distribute into Petri dishes or test tubes according to the purpose.

Remarks

Since the medium has an excellent ability to support the growth of bacteria, it is suitable for the cultivation of many fastidious pathogenic bacteria.
Since *E. coli, Salmonella* and *Shigella*, which frequently mutate, are stable during the preservation on this medium, it is useful for the test of their antigenicity and virulence.

Formula

Components	In 40.0 g/L
Heart Extract Powder	10.0 g
Peptone	10.0 g
Sodium Chloride	5.0 g
Agar	15.0 g

pH 7.4 ± 0.2

Back to the Index

05503-20100215 Koh SAN

Heart Infusion Broth *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05505	Powder	100 g	Dry, RT	3 years

Directions

Suspend 25.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute into adequate containers according to the purpose, and sterilize by autoclaving at 121°C for 15 minutes.

Remarks

Since the medium has an excellent ability to support the growth of many kinds of bacteria, it is suitable for the cultivation and preservation of many fastidious bacteria.
The medium does not affect the biological nature of bacteria, and it is also suitable for precise biological tests.
The medium may be employed in the routine cultivation and for various other purposes, because the medium does not contain any carbohydrate such as dextrose.

Formula

Components	In 25.0 g/L
Heart Extract Powder	10.0 g
Peptone	10.0 g
Sodium Chloride	5.0 g

pH 7.2 ± 0.1

Back to the Index

05507-20100215 Koh SAKAI

Brain Heart Infusion Agar *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05507	Powder	100 g	Dry, RT	3 years

Directions

Suspend 50.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Sterilize by autoclaving at 121°C for 15 minutes. Use as plates or slants.

Remarks

Since the medium has an excellent ability to support the growth of many kinds of bacteria, it is suitable for the cultivation and preservation of many nutritionally fastidious bacteria.
The medium does not affect the biological nature of bacteria, and it is suitable for precise biological tests.

Formula

Components	In 50.0 g/L
Porcine Brain Extract Powder	4.0 g
Porcine Heart Extract Powder	4.0 g
Peptone	17.5 g
Dextrose	2.0 g
Sodium Chloride	5.0 g
Disodium Phosphate	2.5 g
Agar	15.0 g
	pH 7.2 ±

Back to the Index

05507-20100215 Koh SAKAI

Brain Heart Infusion Broth *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05509	Powder	100 g	Dry, RT	3 years

Directions

Suspend 35.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Sterilize by autoclaving at 121°C for 15 minutes.

Remarks

Since the medium has an excellent ability to support the growth of many kinds of bacteria, it is suitable for the cultivation and preservation of many nutritionally fastidious bacteria. The medium is also used for the cultivation of blood specimens.
The medium does not affect the biological nature of bacteria, and it is suitable for precise biological tests.

Formula

Components	In 35.0 g/L
Porcine Brain Extract Powder	4.0 g
Porcine Heart Extract Powder	4.0 g
Peptone	17.5 g
Dextrose	2.0 g
Sodium Chloride	5.0 g
Disodium Phosphate	2.5 g

pH 7.2 ±

Back to the Index

05509-20100215 Koh SAN

Nutrient Agar *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05514	Granule	300 g	Dry, RT	3 years

Directions

Suspend 35.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Sterilize by autoclaving at 121°C for 15 minutes.
The medium are used either slants or plates for routine culture and preservation of organisms that are not nutritionally fastidious.

Formula

Components	In 35.0 g/L
Meat Extract	5.0 g
Peptone	10.0 g
Sodium Chloride	5.0 g
Agar	15.0 g

pH 7.0 ±

Back to the Index

05514-20100215 Koh SAN

Nutrient Broth *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05511	Powder	300 g	Dry, RT	3 years

Directions

Suspend 30.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute the medium into adequate containers, and sterilize by autoclaving at 121°C for 15 minutes.

Remarks

The medium aims especially at its transparency, and it can be widely used as a broth medium for the cultivation of general bacteria.

Formula

Components	In 30.0 g/L
Meat Extract	5.0 g
Peptone	15.0 g
Sodium Chloride	5.0 g
Dipotassium Phosphate	5.0 g
	pH 7.0 ±

Back to the Index

05511-20100215 Koh SAKAI

Trypto-Soya Agar (SCD Agar) *"Nissui"*

(Soybean-Casein-Digest Agar)

Code	Form	Package	Storage	Shelf Life
05516	**Granule**	**300 g**	**Dry, RT**	**3 years**

Directions

Suspend 40.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Sterilize by autoclaving at 121°C for 15 minutes. Use as plates or slants.

Remarks

The medium is fit for various purposes because it permits the growth of fastidious bacteria that do grow on Nutrient Agar or Heart Infusion Agar, and is markedly superior to conventional media as a basal medium of blood agar.

Formula

Components	In 40.0 g/L
Peptone	**15.0 g**
Soya Peptone	**5.0 g**
Sodium Chloride	**5.0 g**
Agar	**15.0 g**
	pH 7.3 ± 0.2

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05516-20100217 Koh SAKAI

Trypto-Soya Broth (SCD Broth) *"Nissui"*

(Soybean-Casein-Digest Broth)

Code	Form	Package	Storage	Shelf Life
05630	**Granule**	**300 g**	**Dry, RT**	**3 years**

Directions

Suspend 30.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute into appropriate containers, and sterilize by autoclaving at 121°C for 15 minutes.

Remarks

The medium is commonly used for the cultivation of fastidious bacteria such as *Neisseria, Brucella,* streptococci and pneumococci.
As the bacteria grow rapidly on the medium, they tend to die out soon. So the medium is not suitable for use a stock culture medium.
It is not desirable to subculture pneumococci, streptococci and *Neisseria* repeatedly on this medium.
For blood culture, inoculate about 5 ml of blood specimen into 50 ml of the medium.
It is possible to isolate the bacteria from bacteremia and septicemia.

Formula

Components	In 30.0 g/L
Peptone	**20.0 g**
Sodium Chloride	**5.0 g**
Dextrose	**2.5 g**
Dipotassium Phosphate	**2.5 g**

pH 7.3 ± 0.2

Back to the Index

05630-20100215 Koh SAN

Buffered Sodium Chloride Peptone Solution (pH7.0) *"Nissui"*

(For preparation of sample solution)

Code	Form	Package	Storage	Shelf Life
05528	**Powder**	**300 g**	**Dry, RT**	**3 years**

Directions

Suspend 16.1 g of the dehydrated medium in 1,000 mL of distilled water.
Heat to dissolve the medium, and dispense into appropriate apparatus according to its purpose. Sterilize by autoclaving at 121°C for 20 minutes for use. If necessary to dissolve sample, 1-10 g Polysorbate 20 or Polysorbate 80 may be added to 1,000 mL of this Buffer Solution. The Buffer Solution is used for dissolution or dilution of sample to prepare sample solution.

Formula

Components	In 16.1 g/L
Peptone	**1.0 g**
Sodium Chloride	**4.3 g**
Potassium Dihydrogen Phosphate	**3.56 g**
Disodium Hydrogen Phosphate	**7.23 g**

pH 7.0 ± 0.2

Back to the Index

05528-20100218 Koh SAKAI

Dorset Egg Medium *"Nissui"*

(For maintenance of organisms)

Code	Form	Package	Storage	Shelf Life
05522	Solid	100 tubes	Dark, Cool	5 years

Directions

Smear on the slant and incubate at 37°C with the rubber stopper loosened (In case of *Mycobacterium* species,replace the rubber stopper with a cotton plug, which is again replaced with a rubber stopper after several days.) After growth, put the rubber stopper tightly and keep at an adequate temperature.

Determinations

A method of maintenance of organisms:

The temperature and term for maintenance of organisms on this medium vary with strains of bacteria. Maintenance of strains should be conducted in the following technique.

Mycobacterium: Incubate at 37°C and store at room temperature (15-25°C). Subculture every 6 months.

Nocardia: Apply in the same method as in case of *Mycobacterium*, except for subcultivation of every 3 months.

Meningococci: Incubate at 37°C and store at 4°C.

Enterobacteriaceae: Subculture *Salmonella* once every year, and *Shigella* or *Escherichia coli* every 6 months.

Notes:

This medium is not suitable for the preservation of organisms which produce protease (for example, *Vibrio* and *Pseudomonas*).

Remarks

This medium is the modification of the egg medium described by Dorset for isolation and cultivation of *Mycobacterium* species. The modification is performed by replacing broth with physiological saline solution.

Use for the following purposes:

Maintenance of organisms. (By using the medium strains can be preserved with the least variations of properties such as S-R variations, colicinogenicity, colicin tolerance and drug sensitivity.)

Pure culture of *Mycobacterium* species.

Determination of proteolytic activity of prganisms.

Formula

Components	In 1 L
Fresh Egg Mixture (yolks and whites)	800 mL
0.9% Sodium Chloride Solution	200 mL

pH 7.5 ± 0.3

This medium is prepared by distributing 3 mL amounts into narrow test tubes, solidifying into a slant after sterilization.

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05522-20100218 Koh SAN

CLED Agar *"Nissui"*

(Cystine-Lactose-Electrolyte Deficient Aagar, Isolation and quantitative culture of urinary organisms)

Code	Form	Package	Storage	Shelf Life
05527	**Powder**	**300 g**	**Dry, RT**	**3 years**

Directions

Suspend 36.2 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Sterilize by autoclaving at 121°C for 15 minutes. After sterilization, mix the medium well and distribute about 20 mL of the medium into Petri dishes.

Determinations

After drying the surface of the plate, smear urinary specimens quantitatively and incubate at 37°C for 18 – 24 hours. Calculate viable organisms in the specimen by the number of growing colonies on the plate.
While lactose fermenters such as *E. coli, Klebsiella* and *Enterobacter* form yellow colonies, lactose non-fermenters such as *Proteus* and *Salmonella* form blue colonies. Enterococci and staphylococci form small, yellow colonies. *Pseudomonas aeruginosa* forms green colonies with a rough periphery.

Remarks

The medium prevents the swarming of Proteus, as it is deficient in electrolyte.
MacConkey Agar or DHL Agar was often used for the examination of urinary bacteria, and these media inhibit the growth of cocci. For that reason, blood agar and nutrient agar should be used concurrently.
The medium, however, permits an accurate count of viable urinary organisms without inhibiting the growth of gram-positive bacteria, as it contains only 0.002% of brom thymol blue.

Formula

Components	In 36.2 g/L
Peptone	**4.0 g**
Meat Extract	**3.0 g**
Tryptone	**4.0 g**
Lactose	**10.0 g**
L-Cystine	**0.128 g**
Brom Thymol Blue	**0.02 g**
Agar	**15.0 g**
	PH 7.3 ±

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05527-20100218 Koh SAN

TGC Medium, Fluid *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05601	Granule	300 g	Dry, RT	3 years

Directions

Suspend 29.3 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute necessary amounts of medium into test tube, sterilize by autoclaving at 121°C for 20 minutes, and immediately cool down for use.

The prepared medium should not be used if more than one thirds of the upper part of the medium turned carmine.

Add the test sample, mix thoroughly with the medium and incubate at 30 – 35°C at least for 14 days. If it is difficult to determine the result, transfer a part of the culture into newly prepared medium and sub culture. Incubate at 30 – 35°C at least for 7 days before a final determination.

Remarks

The medium is most suitable for sterility testing of injections.

Formula

Components	In 29.3 g/L
L-Cystine	0.5 g
Sodium Chloride	2.5 g
Dextrose	5.0 g
Yeast Extract	5.0 g
Peptone	15.0 g
Sodium Thioglycollate	0.5 g
Resazurin	0.001 g
Agar	0.75 g
	pH 7.1 ±

Back to the Index

TGC Medium without Indicator, Liquid *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05610	Powder	300 g	Dry, RT	3 years

Directions

Suspend 28.5 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute the medium into appropriate containers. Sterilize by autoclaving at 121°C for 20 minutes, and immediately cool down for use. When the medium is kept for stored, re-heat the prepared medium in boiling water to degas before use.
Add the test sample, mix thoroughly with the medium and incubate anaerobically at 30 – 35°C at least for 14 days. If it is difficult to determine the result, transfer a part of the culture into newly prepared medium and sub culture. Incubate at 30 – 35°C at least for 7 days before a determination.

Remarks

The medium is used for the cases in which it is difficult to use TGC Medium due to turbidity or high viscosity of the test samples. As it does not contain agar, it is easy to mix the samples with the medium.

Formula

Components	In 28.5 g/L
L-Cystine	0.5 g
Sodium Chloride	2.5 g
Peptone	15.0 g
Yeast Extract	5.0 g
Dextrose	5.0 g
Sodium Thioglycollate	0.5 g

pH 7.1 ±

Back to the Index

05610201002 18 Koh SAI

TGC Medium without Indicator, Fluid *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05629	Granule	300 g	Dry, RT	3 years

Directions

Suspend 30.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute about 18 mL of the medium into middle size of tubes. Sterilize by autoclaving at 121°C for 15 minutes, and immediately cool down for use.
When the medium is kept for stored, re-heat the prepared medium in boiling water to degas and rapidly cool down before use.

Remarks

The medium is modified by Vera for clinical use, and capable to grow wide range of bacteria from aerobic to anaerobic microorganism, and also used for blood culture. Do not leave any positive specimen in the medium, because they may be killed by a group of dextrose fermentation bacteria that grow utilizing dextrose in the medium.

It is also possible to culture *Trichomonas vaginalis* by adding serum 10% of the medium.

Formula

Components	In 30.0 g/L
Peptone	17.0 g
Soya Peptone	3.0 g
Dextrose	6.0 g
Sodium Chloride	2.5 g
Agar	0.7 g
Sodium Thioglycollate	0.5 g
L-Cystine	0.25 g
Sodium sulfite	0.1 g

pH 7.1 ± 0.2

Back to the Index

05629-20100218 Koh SAN

Dextrose Peptone Broth *"Nissui"*

(Aseptic Test for Fungi (Mold and Yeast))

Code	Form	Package	Storage	Shelf Life
05602	**Powder**	**300 g**	**Dry, RT**	**3 years**

Directions

Suspend 28.5 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute into appropriate containers, and sterilize by autoclaving at 121°C for 20 minutes. Incubate at 20 – 25°C for at least 10 days.

Remarks

If the growth of fungi were not distinctive, subculture into the fresh medium for continued incubation at 20 – 25°C for more than 10 days for final evaluation.

Formula

Components	In 28.5 g/L
Dextrose	**20.0 g**
Yeast Extract	**2.0 g**
Magnesium Sulfate	**0.5 g**
Peptone	**5.0 g**
Potassium Dihydrogen Phosphate	**1.0 g**

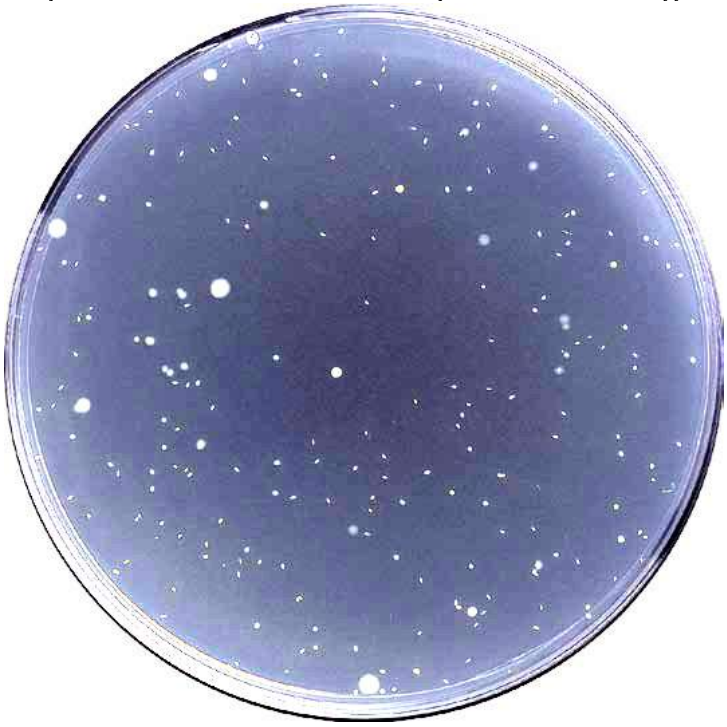
pH 5.7 ±

Back to the Index

05602-20100219 Koh SAN

Standard Method Agar *"Nissui"*

(SPC: Standard Plate Count (For viable count))



Code	Form	Package	Storage	Shelf Life
05618	**Granule**	**300 g**	**Dry, RT**	**3 years**

Directions

Suspend 23.5 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Sterilize by autoclaving at 121°C for 15 minutes. Maintain the medium at about 50°C. Distribute about 20 mL into Petri dishes contained test samples in advance, and mix well. Incubate at 35±1°C for 48±3 hours.

Remarks

The medium is applied for the following purposes; enumeration of bacteria in milk, dairy products, soft drink powder, chipped ice, ice cream, oysters, frozen fishes and seafood products and others. Also for enumeration of thermo-resistant bacteria (spores) in sugar, starch and spices to be used for the products of fish and meat.

Formula

Components	In 23.5 g/L
Yeast Extract	**2.5 g**
Peptone	**5.0 g**
Dextrose	**1.0 g**
Agar	**15.0 g**

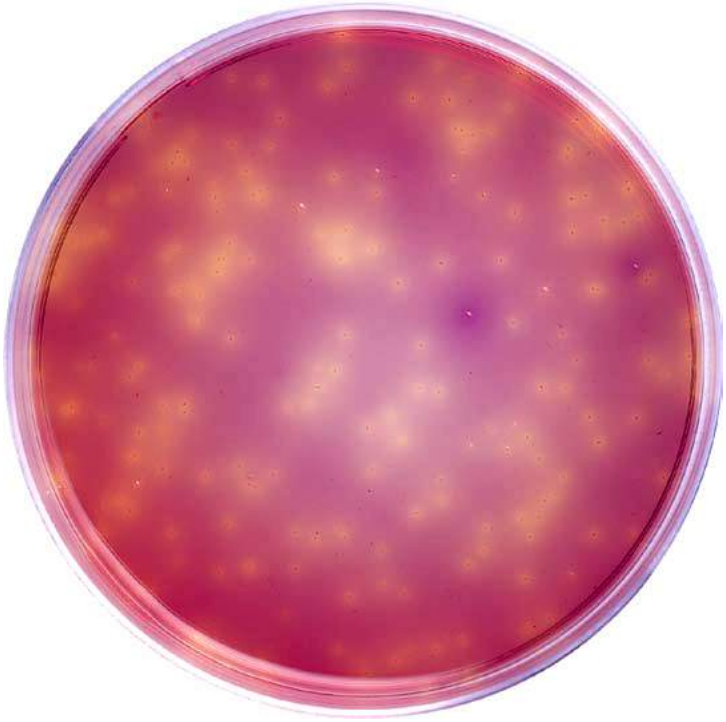
pH 7.0 ±

Back to the Index

05618-20100219 Koh SAKAI

Plate Count Agar with BCP *"Nissui"*

(Plate Count Agar with Brom Cresol Purple, For enumeration of the numbers of lactobacilli)



Code	Form	Package	Storage	Shelf Life
05622	**Powder**	**300 g**	**Dry, RT**	**2 years**

Directions

Suspend 24.7 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Sterilize by autoclaving at 121°C for 15 minutes. Maintain the medium at about 50°C. Distribute about 20 mL into Petri dishes contained the test sample in advance, mix well, and incubate at 35 – 37°C for 72±3 hours.

Remarks

Lactobacilli grown on the medium form colonies with yellowish peripheries in the depth and on the surface of the medium. As polysorbate 80 and L-cysteine are being added to the composition, the ability of the medium with supports the growth of lactobacilli has been improved. As *Lactobacillus bulgaricus* invariably forms yellowish colonies, its detection and determination are easy.

Color of the medium may be changed to purple when incubation is prolonged, as the medium becomes alkaline due to the growth of bacteria. Bifidobacterium does not grow on the medium, and it is recommended to incubate it anaerobically with BL Agar medium.

Formula

Components	In 24.7 g/L
Yeast Extract	**2.5 g**
Peptone	**5.0 g**
Dextrose	**1.0 g**
Polysorbate 80	**1.0 g**
L-Cysteine	**0.1 g**
Brom Cresol Purple	**0.06 g**
Agar	**15.0 g**
	PH 7.0 ±

Back to the Index

05622-20100223 Koh SAN

CVT Agar *"Nissui"*

(Viable counting for psychrophilic microorganism)

Code	Form	Package	Storage	Shelf Life
05625	**Powder**	**100 g**	**Dry, RT**	**3 years**

Directions

Suspend 23.5 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. **Do not autoclave.**

Remarks

The medium is developed by Olson to measure the viable count of psychrophilic microorganism in milk and dairy products, mainly non-fermentative gram negative rod such as *Pseudomonas*.
After incubation at 20 – 25°C for 48 – 72 hours, gram negative rods such as *Pseudomonas, Acinetobacter, Flavobacterium, Alcaligenes* and *Coliforms* develop red colonies by reducing TTC. Growths of gram-positive bacteria are inhibited.
①The least heating is must to keep quality. Stop heating immediately after the medium is dissolved.
②Whole medium may change to red when the sample contains certain products that reduce TTC.

Formula

Components	In 23.5 g/L
Yeast Extract	**2.5 g**
Peptone	**5.0 g**
Dextrose	**1.0 g**
Crystal Violet	**0.002 g**
Triphenyl-Tetrazolium-Chloride (TTC)	**0.05 g**
Agar	**15.0 g**
	pH 7.0 ±

Back to the Index

05625-20100223 Koh SAN

Lactose Broth *"Nissui"*

Uninoculated

Code	Form	Package	Storage	Shelf Life
05634	Granule	300 g	Dry, RT	3 years

Directions

Suspend 18.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute the medium into middle size of test tubes including a fermentation tube or a Durham's tube. Sterilize by autoclaving at 121°C for 15 minutes, and cool down rapidly for use. Do not use any tubes that contain bubbles in a fermentation tube or a Durham's tube.
To inoculate the test sample of more than 10 mL, use twice or three times thicker medium.

Remarks

The medium is used for testing the presence of coliform in food and water, and is also used for the determination of lactose fermentative bacteria.
When no gas was evolved after incubation, coliform test is negative. In case of positive gas evolution (color of medium changes to yellow), further confirmation test with BGLB Broth and/or EMB Agar should be performed.

Formula

Components	In 18.0 g/L
Meat Extract	3.0 g
Peptone	10.0 g
Lactose	5.0 g
Brom Thymol Blue	0.024 g

pH 7.0 ±

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05634-20100223 Koh SAN

BGLB Broth *"Nissui"*

Uninoculated

Code	Form	Package	Storage	Shelf Life
05638	Granule	300 g	Dry, RT	3 years

Directions

Suspend 40.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute the medium into middle size of test tubes containing a fermentation tube or a Durham's tube. Sterilize by autoclaving at 121°C for 15 minutes, and cool down rapidly for use. Do not use any tubes that contain bubbles in a fermentation tube or a Durham's tube.
To inoculate the test sample of more than 10 mL, use double concentration medium. Keep strictly a sterilization time, and ensure a rapid cooling before use.
Slight color discrepancy by lot to lot may be observed.

Remarks

The medium is used for testing the presence of coliform in food and water, and is also used for the determination of lactose fermentative bacteria.
When gas was evolved after incubation, coliform test is positive.
In case of the examination of water, incubate in Lactose Broth first, and when the production of gas is observed, transplant the culture to BGLB Broth.For the test of food and drinks, add the specimen directly to the medium and observer the production of gas.
The medium inhibits the growth of gram-positive bacteria, while it permits the proliferation of *E. coli*.

Formula

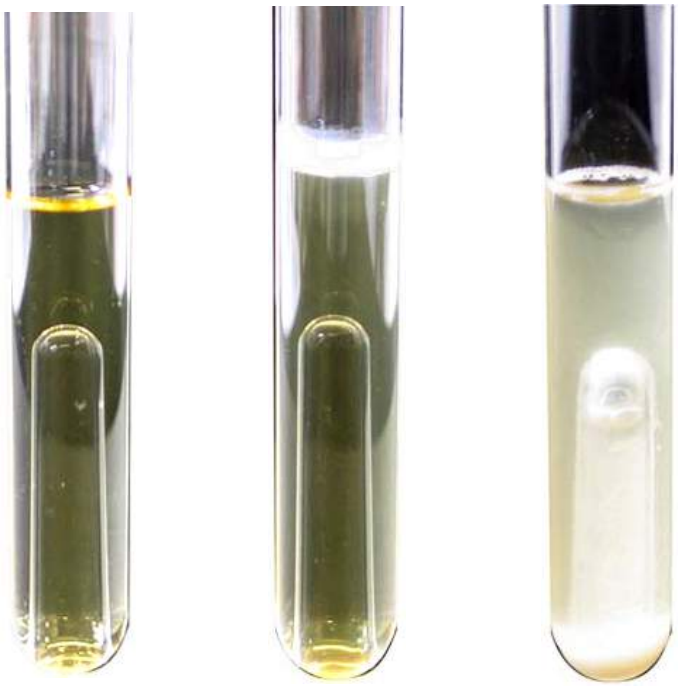
Components	In 40.0 g/L
Calf Bile Powder	20.0 g
Lactose	10.0 g
Peptone	10.0 g
Brilliant Green	0.0133 g
	pH 7.0 ±

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05638-20100223 Koh SAN

EC Broth *"Nissui"*



Uninoculated

Code	Form	Package	Storage	Shelf Life
05648	**Powder**	**100 g**	**Dry, RT**	**3 years**

Directions

In case of 1 mL or less of the specimen, use the prescribed amount (37.0 g) of the medium, and in case of 10 mL or more of the specimen, use twice the amount (74.0 g) of the medium.
Suspend the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute 10 mL of medium into middle size of test tubes containing a fermentation tube or a Durham's tube. Sterilize by autoclaving at 121°C for 15 minutes, and cool down rapidly for use. Do not use any tubes that contain bubbles in a fermentation tube or a Durham's tube.

Remarks

The medium is used for enumeration of coliform bacteria in water, milk and seafood products.
When gas is evolved after incubation at 37°C for 48 hours, determine coliform to be positive, and determine *Escherichia coli* to be positive in case of evolution of gas after incubation at 44.5°C.
The medium inhibits the growth of *Enterococcus.*

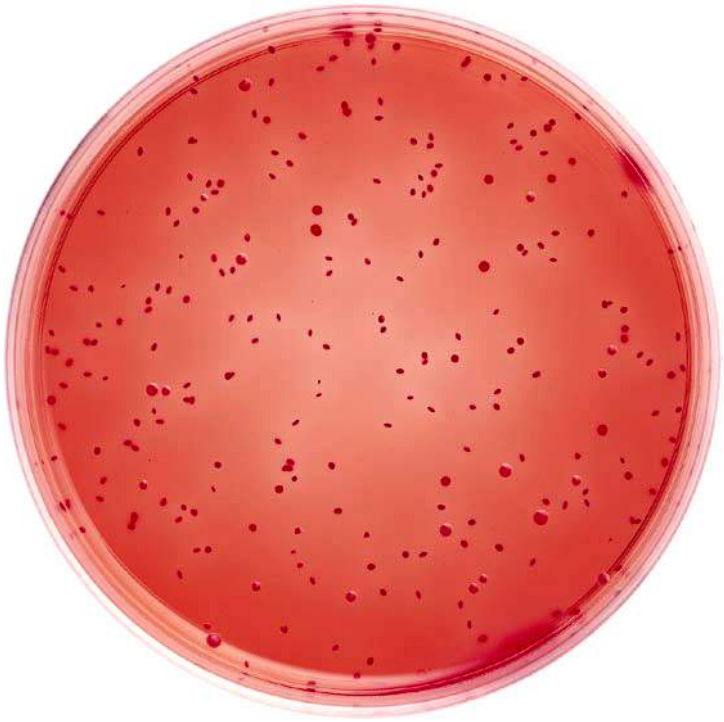
Formula

Components	In 37.0 g/L
Peptone	**20.0 g**
Lactose	**5.0 g**
Bile Salts	**1.5 g**
Dipotassium Phosphate	**4.0 g**
Potassium Dihydrogen Phosphate	**1.5 g**
Sodium Chloride	**5.0 g**
	pH 6.9 ±

Back to the Index

05648-20100224 Koh SAKAI

Desoxycholate Agar *"Nissui"*



Code	Form	Package	Storage	Shelf Life
05636	Granule	300 g	Dry, RT	3 years

Directions

Suspend 45.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute about 20 mL of medium into Petri dishes. In case of the liquid specimen, it is recommended to use the pour plate method to facilitate counting.
Do not autoclave.

Determination

Coliform bacilli form red colonies after incubation at 35±1°C for 18 – 22 hours.
The medium around colonies has light peach or brick colored precipitates.
Other bacteria are invisible or form extremely small and colorless colonies in general.
Proteus forms generally large colorless or brown colonies.
The growth of gram-positive coccus is inhibited.

Remarks

The medium is widely used for the detection of coliform bacilli in water, drinks and foods. The medium does not require any sterilization.

Formula

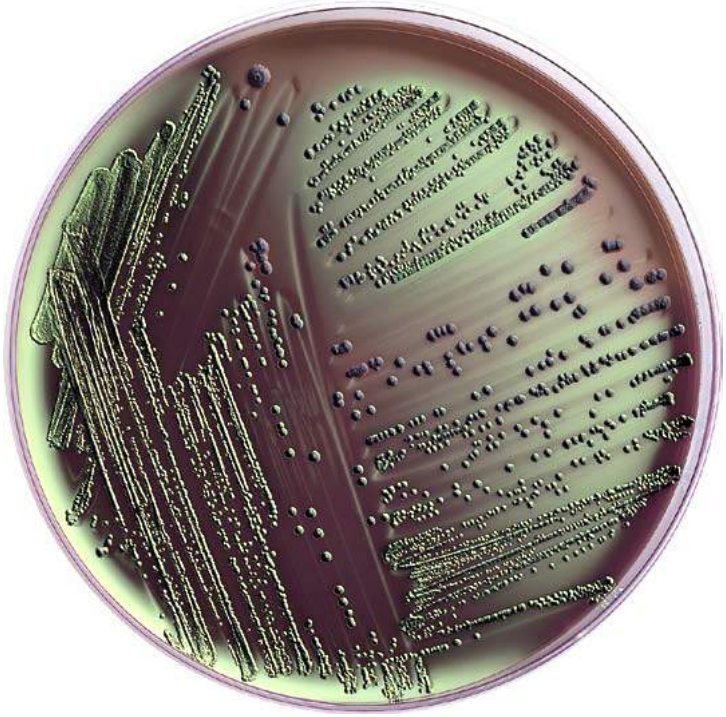
Components	In 45.0 g/L
Sodium Desoxycholate	1.0 g
Peptone	10.0 g
Ferric Ammonium Citrate	2.0 g
Sodium Chloride	5.0 g
Dipotassium Phosphate	2.0 g
Lactose	10.0 g
Neutral Red	0.033 g
Agar	15.0 g
	pH 7.2 ± 0.2

Back to the Index

05636-20100224 Koh SAN

EMB Agar *"Nissui"*

(Eosin Methylene Blue Agar)



Code	Form	Package	Storage	Shelf Life
05644	Powder	300 g	Dry, RT	3 years

Directions

Suspend 37.5 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Sterilize by autoclaving at 121°C for 15 minutes. Distribute about 20 mL of the medium into Petri dishes.

Determinations

Incubate at 35±1°C for 22-26 hours.
E. coli, one of coliform organisms, forms colonies of metallic luster with a black center, while *Enterobacter aerogenes* forms larger colonies with a dark center.
Salmonella and *Shigella* form colorless, transparent and small colonies.

Remarks

The medium is used for the differentiation of coliform organisms in foods and drinks.

The growth of gram-positive organisms is inhibited by the dyes.

Formula

Components	In 37.5 g/L
Peptone	10.0 g
Lactose	10.0 g
Dipotassium Phosphate	2.0 g
Eosin Y	0.4 g
Methylene Blue	0.065 g
Agar	15.0 g

pH 6.8 ± 0.2

Back to the Index

05644-20100224 Koh SAN

X-GAL Agar *"Nissui"*

(For the test of Coliform group)

Code	Form	Package	Storage	Shelf Life
05631	Granule	300 g	Dry, RT	3 years

Directions

Suspend 44.3 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Sterilize by autoclaving at 121 °C for 15 minutes. Distribute 20 mL amounts of medium into Petri dish.
For the mixing and dilution culture of liquid specimen, the medium may be used in "pour plate" technique.

Remarks

The medium is used for the test for coliform group in foods and drinks. Coliform group develop a blue to blue-green colony after incubation at 35 – 37 °C for 20 ± 2 hours. Growths of almost all other bacteria are inhibited, and they develop only white colony even if they grow.
X-GAL (colorimetric enzyme substrate) in the medium is decomposed to bring out blue/blue-green color by β-galactosidase produced by coliform group.

Formula

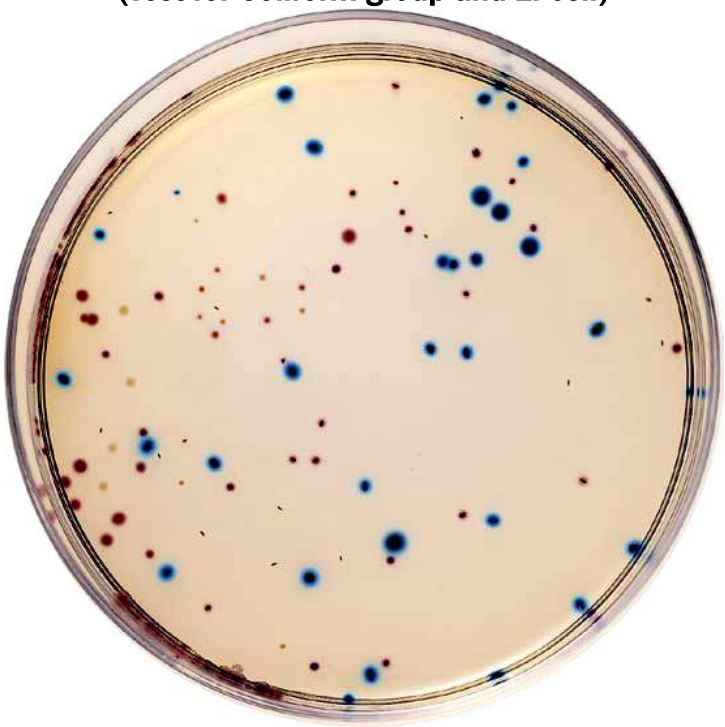
Components	In 44.3 g/L
Peptone	15.0 g
Yeast Extract	5.0 g
Sodium Pyruvate	1.0 g
Sodium Chloride	5.0 g
Disodium Phosphate	2.0 g
Potassium nitrate	1.0 g
Sodium Lauryl Sulfate	0.15 g
5-bromo-4-chloro-3-indolyl-β-D-galactopyranoside (X-GAL)	0.15 g
Agar	15.0 g
	pH 7.1 ±

Back to the Index

05631-20100224 Koh SAKAI

XM-G Agar *"Nissui"*

(Test for Coliform group and *E. coli*)



Code	Form	Package	Storage	Shelf Life
05632	**Granule**	**300 g**	**Dry, RT**	**3 years**

Directions

Suspend 39.3 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Sterilize by autoclaving at 121 °C for 15 minutes. Distribute necessary amounts of medium into Petri dish.

Remarks

The medium is used for the screening test for *E. coli* and coliform group. *E. coli* has a β-glucuronidase that decomposes the substrate of X-GLUC to produce blue dye. For the meanwhile Coliform group have aβ-galactosidase that decomposes the substrate of MAGENTA-GAL to produce red dye. E.coli has both enzymes, and may produce a blue to blue purple color.

Since *E. coli* O157 does not have a β-glucuronidase, they are identified as a Coliform group.

Incubate at 35-37 °C for 20±2 hours. Over-time incubation may foster growth of microorganism other than *E. coli* and Coliform group. Red color may be observed if the sample contains lactobacilli that has also a β-galactosidase.

Formula

Components	In 39.3 g/L
Peptone	10.0 g
Sodium Pyruvate	1.0 g
L-Tryptophan	1.0 g
D-Sorbitol	1.0 g
Sodium Chloride	5.0 g
Sodium dihydrogen Phosphate	2.2 g
Disodium Phosphate	2.7 g
Potassium nitrate	1.0 g
Sodium Lauryl Sulfate	0.2 g
5-bromo-4-chloro-3-indolyl-β-D-glucuronide (X-GLUC)	0.1 g
5-bromo-6-chloro-3-Indolyl-β-D-galactopyranoside (MAGENTA-GAL)	0.1 g
Agar	15.0 g
	pH 7.0 ± 0.2

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05632-20100224 Koh

Blue Light Broth *"Nissui"*

(Rapid test for Coliform group and *E. coli*)

Code	Form	Package	Storage	Shelf Life
05607	Granule	300 g	Dry, RT	3 years

Directions

Suspend 17.4 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute necessary amounts of medium into test tube. Sterilize by autoclaving at 121°C for 15 minutes.

Remarks

The medium is used for the test for coliform group and *E. coli* in foodstuffs or water.
Coliform group change the medium blue to blue-green after incubation at 35 – 37°C for 24 hours. Fluorescent is observed when the positive medium is exposed to UV light (365 nm), if *E. coli* was present.
X-GAL (colorimetric enzyme substrate) in the medium is decomposed to bring out blue/blue-green color by β-galactosidase produced by coliform group.
MUG in the medium is decomposed byβ-Glucuronidase to be produced by *E. coli* to isolate a fluorescence substance of 4-Methyl-Umbelliferone.

Formula

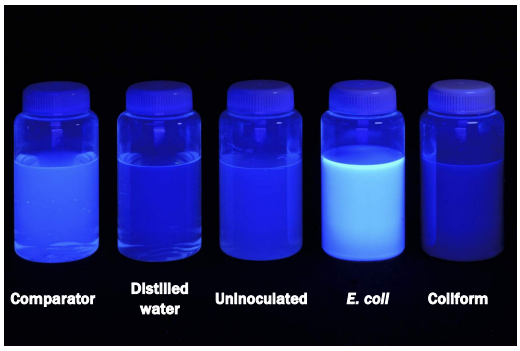
Components	In 17.4 g/L
Peptone	5.0 g
Sodium Chloride	5.0 g
Sodium Pyruvate	1.0 g
Potassium dihydrogen phosphate	1.0 g
Dipotassium Phosphate	4.0 g
Potassium nitrate	1.0 g
Sodium Lauryl Sulfate	0.1 g
Isopropyl-β-D(-)-Thiogalactopyranoside (IPTG)	0.1 g
5-bromo-4-chloro-3-indolyl-β-D-galactopyranoside (X-GAL)	0.1 g
4-Methyl-Umbelliferyl-β-D-Glucuronide (MUG)	0.1 g
	pH 7.1 ±

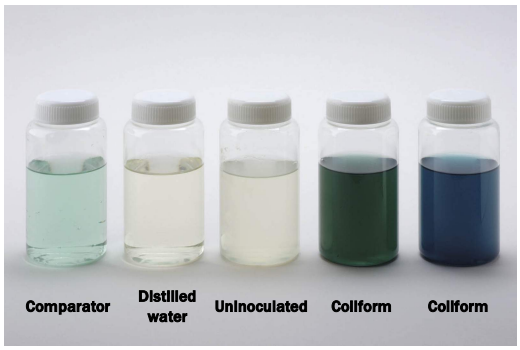
Back to the Index

05607-20100225 Koh SAKAI

EC Blue *"Nissui"*

(Test for Coliform group and *E. coli* in water)





Code		Package	Storage	Shelf Life
05591	100P (For 100 mL)	100 Packs	Light shielding, RT	2 years
05593	100 (For 100 mL)	80 Bottles		
05613	10 (For 10 mL)	150 Bottles		1 year

Directions

A special pouch of EC Blue 100P contains an exact amount of medium for the preparation of 100 mL medium. Simple and easy use neither weight measuring nor autoclaving.
A disposable bottle of EC Blue 100 and EC Blue 10 contains an exact amount of medium for the preparation of 100 mL and 10 mL medium respectively. Simple and easy use neither weight measuring, autoclaving nor incubation tube.

Remarks

Coliform group change the medium blue to blue-green after incubation at 35 – 37 °C for 24 hours. Fluorescent is observed when the positive medium is exposed to UV light (365 nm), if *E. coli* is present. X-GAL (colorimetric enzyme substrate) in the medium is decomposed to bring out blue/blue-green color by β-galactosidase produced by coliform group.

MUG in the medium is decomposed by β-Glucuronidase to be produced by *E. coli* to isolate a fluorescence substance of 4-Methyl-Umbelliferone.

Formula

Components	In 17.4 g/L
Peptone	5.0 g
Sodium Pyruvate	1.0 g
Dipotassium Phosphate	4.0 g
Potassium nitrate	1.0 g
Isopropyl-β-D(-)-Thiogalactopyranoside (IPTG)	0.1 g
5-bromo-4-chloro-3-indolyl-β-D-galactopyranoside (X-GAL)	0.1 g
4-Methyl-Umbelliferyl-β-D-Glucuronide (MUG)	0.1 g
Sodium Chloride	5.0 g
Sodium Lauryl Sulfate	0.1 g
Monopotassium Phosphate	1.0 g
	pH 7.1 ± 0.2

NISSUI PHARMACEUTICAL CO., LTD.

05591-20100225 Koh SAN

EC-Blue 100 *"Nissui"* Bottle Holder

Code	Form	Package	Storage	Shelf Life
06574	For 10 Bottles	1	-	-

Back to the Index

06574-20100225 Koh SAKU

EC Blue 10; 100 *"Nissui"* Comparator

Code		Package	Storage	Shelf Life
06516	10	10 mL × 1	Light shielding, Cool	1 year
05617	100	100 mL × 1		

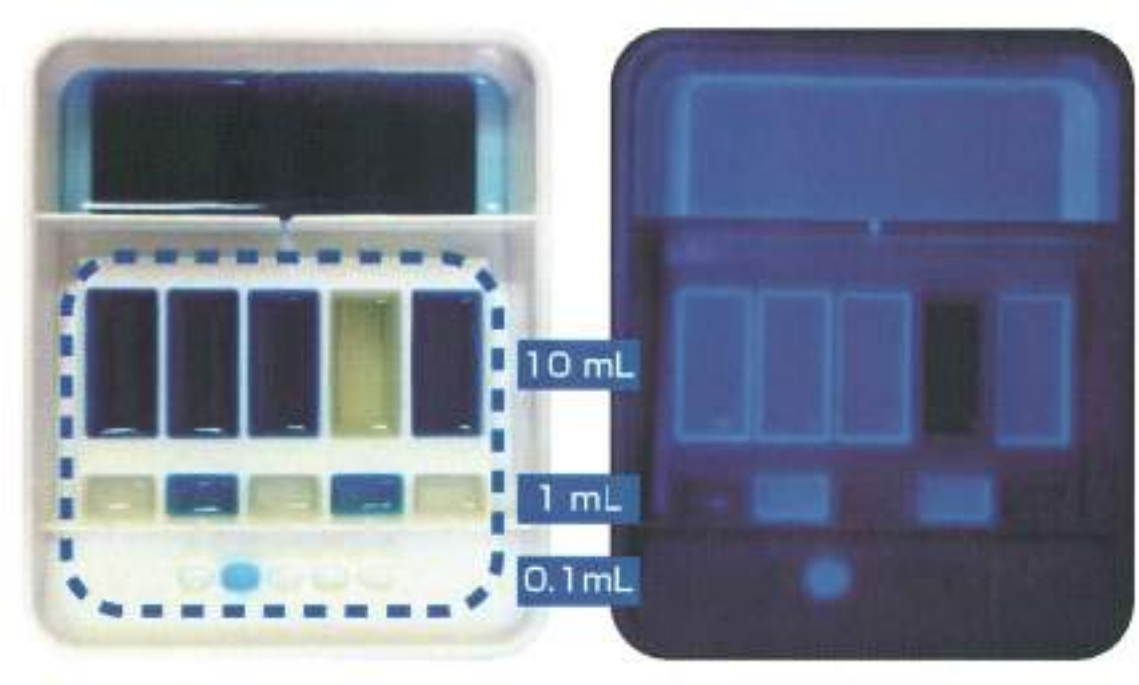
Formula

Components	
Indigo Carmine	2 mg
o-nitrophenol	4.8 mg
4-Methylumbelliferone sodium salt	1 mg
Potassium Dihydrogen Phosphate	1.0 g
Dipotassium Phosphate	4 g
Distilled Water	1000 mL

Back to the Index

05617-20100225 Koh SAKAI

EC-Blue 100 *"Nissui"* MPN Plate



Code	Form	Package	Storage	Shelf Life
06517	-	18	-	-

Back to the Index

06517-20100225 Koh SAKAI

MacConkey Sorbitol Agar *"Nissui"*

(Isolation medium for *E. coli* O157)

Code	Form	Package	Storage	Shelf Life
05643	**Granule**	**300 g**	**Dry, RT**	**3 years**

Directions

Suspend 50.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Sterilize by autoclaving at 121 °C for 15 minutes. Distribute necessary amounts of medium into Petri dish.

Remarks

The medium is used for an isolation of *E. coli* O157 based on the nature that O157 does not ferment sorbitol while other *E. coli* do. *E. coli* O157 develops a semitransparent colony after incubation at 37 °C for 18 – 20 hours. For the meanwhile other E. coli develop a redbrick color
colony with light peach or redbrick zone of desoxycholic acid precipitated.
Growths of gram positive coccus are inhibited.

Formula

Components	In 50.0 g/L
Bile Salt	1.0 g
Peptone	19.0 g
D-Sorbitol	10.0 g
Sodium Chloride	5.0 g
Crystal Violet	0.001 g
Neutral Red	0.03 g
Agar	15.0 g
	pH 7.2 ± 0.2

Back to the Index

05643-20100225 Koh SAN

EF Agar Base "Nissui"

(Appended reagent: TTC, For Isolation of *Enterococcus*)

Code	Form	Package	Storage	Shelf Life
05679	Powder	100 g	Dry, RT	3 years

Directions

Suspend 54.5 g of the dehydrated medium together with 0.25 g of Sodium azide in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Keep at around 60 °C, and then add 10 mL of 1.5% TTC solution. Mix well and distribute the medium into Petri dishes.

1.5% TTC solution:

Dissolve 0.15 g of TTC (appended to the medium) in 10 mL of distilled water, and store in brown bottle in dark and cool place.

Remarks

The medium is used for an isolation of *Enterococcus* in faces, water, milk, dairy products and processed meat.

Incubate at 37 °C for 48 hours. *E. faecalis* forms pink or red brown colonies 0.5 – 2 mm in diameter, while *E. faecium* forms yellow colonies. Growths of gram-negative bacilli are inhibited.

Since Enterococcus is an indicator of fecal pollution as in case of Coliform, the detection of it is important for the survey of fecal pollution.

Formula

Components	In 54.5 g/L
Calf Brain Extract Powder	8.5 g
Heart Extract Powder	8.5 g
Peptone	10.0 g
Dextrose	10.0 g
Dipotassium Phosphate	2.5 g
Brom Thymol Blue	0.032 g
2,3,5-Triphenyltetrazolium Chloride (TTC) (Appended reagent)	0.15 g
Agar	15.0 g
	pH 7.2 ±

NISSUI PHARMACEUTICAL CO., LTD.

05679-20100226 Koh SAN

mEC Broth *"Nissui"*

(Enrichment medium for *E. coli* O157)

Code	Form	Package	Storage	Shelf Life
05649	**Powder**	**300 g**	**Dry, RT**	**3 years**

Directions

Suspend 36.6 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute necessary amounts of medium into appropriate container. Sterilize by autoclaving at 121°C for 15 minutes, and then add 20 mg of Novobiocin.
Incubate at 42°C for 18 – 24 hours.

Remarks

The medium is used for an enrichment culture of *E. coli* O157 in foodstuffs.

Formula

Components	In 36.6 g/L
Peptone	**20.0 g**
Lactose	**5.0 g**
Bile Salt	**1.12 g**
Dipotassium Phosphate	**4.0 g**
Potassium Dihydrogen Phosphate	**1.5 g**
Sodium Chloride	**5.0 g**

pH 6.9 ±

Back to the Index

05649-20100226 Koh SAN

Sabouraud Agar *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05701	Granule	300 g	Dry, RT	3 years

Directions

Suspend 65.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Sterilize by autoclaving at 121°C for 15 minutes, and use as a plate or a slant.

Determinations

Incubate at 37°C or at 25°C. For the isolation of *Candida*, incubate for 48 – 72 hours and in case of other fungi, incubation for 5 days may sometimes be necessary. *Candida* forms colonies with white, opaque, and wet swelling, which gradually change to light brown.

Remarks

Growth of *Candida* on the medium is so well that it can survive for a long period without morphological variations.
As the medium cannot inhibit the contaminant microbes, it is desirable to use the selective media such as Mycobiotic Agar and Candida GE agar simultaneously for the isolation.

Formula

Components	In 65.0 g/L
Peptone	10.5 g
Dextrose	40.0 g
Agar	14.5 g
	pH 5.6 ± 0.2

Back to the Index

05701-20100226 Koh SAN

Corn Meal Agar *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05702	Powder	100 g	Dry, RT	3 years

Directions

Suspend 17.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Sterilize by autoclaving at 121°C for 15 minutes. Distribute the medium into Petri dishes, and dry the surface before use.

Determinations

It is recommended to incubate at 25°C and 37°C. It is also recommended to add Polysorbate 80 at the concentration of 1% for the purpose to observe chlamydospores. After incubation, examine whether chlamydospores or pseudohypha are present therein. The tip of hypha of chlamydospores generally shows an oval form of deep dark color, and pseudohypha also shows specific forms respectively.

Remarks

As the medium has an effective facilitation ability to form pseudohypha, it is used for identification of fungi such as *Candida albicans* that have the ability to form chlamydospores and pseudohypha.

Formula

Components	In 17.0 g/L
Corn Meal Percolated Powder	2.0 g
Agar	15.0 g
	pH 6.0 ±

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05702-20100226 Koh SAKAI

AC Broth Base *"Nissui"*

(For the test of Enterococcus)

Uninoculated

Code	Form	Package	Storage	Shelf Life
05680	**Powder**	**100 g**	**Dry, RT**	**3 years**

Directions

Suspend 50.5 g of the dehydrated medium together with 0.25 g of Sodium azide in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute 10 mL of medium into the middle size of test tubes. Sterilize by autoclaving at 121 °C for 15 minutes.

In case of sample volume is bigger than 10 mL, two or three fold concentration broth is prepared according to the volume of sample.

For preliminary confirmation test of Enterococcus in water or foodstuffs, incubate at 37 °C for 48 hours. For confirmation test, incubate at 45 °C for 48 hours.(for assessment of MPN).

Remarks

For an identification of Enterococcus obtained from clinical samples, fish a suspected colony on the isolation culture, and inoculate to incubate at 45 °C for 48 hours.

On the broth all gram negative and positive bacteria except Enterococcus are inhibited. Consequently, Enterococcus (+) is confirmed when any growth (turbidity) is visually observed.

Formula

Components	In 50.5 g/L
Peptone	**20.0 g**
Yeast Extract	**5.0 g**
Dextrose	**5.0 g**
Sodium Citrate	**10.0 g**
Sodium Chloride	**5.0 g**
Disodium Phosphate	**4.0 g**
Potassium Dihydrogen Phosphate	**1.5 g**

Back to the Index

05680-20100226 Koh SAN

Candida GE Agar *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05703	**Powder**	**100 g**	**Dry, RT**	**3 years**

Directions

Suspend 62.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute about 20 mL amounts into Petri dishes. **Do not autoclave.**

Determinations

After drying the surface, inoculate the slime in oral or vaginal secreta with a sterilized swab and spread on the surface of the medium. Incubate at 35 – 37 °C for 2 – 3 days.
Candida forms specific colonies that are round or oval in shape with a diameter of 3 – 5 mm and are wet and opaque, and have specific odor and luster.
C. albicans forms colonies of creamy or off-white color after 48 – 72 hours incubation, which gradually turn pale brownish.
C. krusei forms flat and irregularly shaped colonies with no luster, while the other *Candida* form brown or pale brown colonies.

Remarks

• Features:
•1. The medium inhibits the growth of miscellaneous bacteria and permits the growth of *Candida* specifically.
2. Nitrofuran derivative markedly or completely inhibits gram-negative bacilli. Therefore the medium facilitates the detection of Candida.
• Note:
It is necessary to smear the specimens heavily on the medium.

Formula

Components	In 62.0 g/L
Yeast Extract	**10.0 g**
Peptone	**8.5 g**
Dextrose	**30.0 g**
Nitrofuran derivative	**0.5 g**
Agar	**13.0 g**
	pH 6.0 ±

Back to the Index

05709-20100114 Koh SAV

Czapek Dox Agar *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05705	Powder	100 g	Dry, RT	3 years

Directions

Suspend 53.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Sterilize by autoclaving at 121 °C for 15 minutes, and cool down about 50 °C. Distribute about 20 mL of the medium into Petri dishes contained the test specimen in advance, mix and incubate at 30 °C or 22 °C for about 7 days.

Determinations

The fungi grown in the deep layer possess flat, folded waves and gradually produce color. Those grown on the surface possess folded waves on the surface of the colonies and produce the specific color of the fungi with the incubation.

Remarks

The medium is used for the determination and cultivation of fungi, and is recommended especially for the cultivation of *Aspergillus*.

Formula

Components	In 53.0 g/L
Dextrose	36.0 g
Sodium Nitrate	2.0 g
Dipotassium Phosphate	1.0 g
Magnesium Sulfate	0.5 g
Potassium Chloride	0.5 g
Ferrous Sulfate	0.01 g
Agar	13.0 g
	pH 6.0 ±

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05705-20100226 Koh SAN

Malt Agar *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05706	Powder	100 g	Dry, RT	3 years

Directions

Suspend 45.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute into the test tubes, sterilize by autoclaving at 121°C for 15 minutes, and use after solidifying in a slanted position or in the butt.

Remarks

The medium is used for the preservation of *Saccharomyces carlsbergensis* that is used for analysis of Vitamin B_6. It is also used widely for the cultivation of common lactobacilli, yeast and fungi.

Formula

Components	In 45.0 g/L
Malt Extract	25.0 g
Agar	20.0 g
	pH 5.0 ±

Back to the Index

05706-20100226 Koh SAN

Potato Dextrose Agar *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05709	Granule	300 g	Dry, RT	2 years

Directions

Suspend 39.0 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Sterilize by autoclaving at 121°C for 15 minutes. Use as the plate or the pour plate method. Incubate at about 25°C is desirable. For mixing and dilution method, distribute the medium into Petri dishes contained the test specimen in advance.

Remarks

The medium is used for the isolation of yeast and fungi from powdered milk or processed milk products. To inhibit the growth of other bacteria for the purpose of enumerating the numbers of yeast and fungi, adjust the above pH (6.0 ±) to pH 3.5 ± 0.1 (add sterilized 10% aqueous solution of tartrate to the sterilized medium), or add chloramphenicol (100 mg/L).

Formula

Components	In 39.0 g/L
Potato Extract	3.9 g
Dextrose	21.0 g
Agar	14.1 g
	pH 5.6 ± 0.2

Back to the Index

05709-20100114 Koh SAN

Lactobacilli Culture Agar *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05800	Powder	100 g	Dry, RT	3 years

Directions

Suspend 59.6 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute into the test tube, sterilized by autoclaving at 121°C for 10 minutes, and use after solidifying in the butt position. Stab the medium for culture at 37°C for 24 – 48 hours. White turbidity (positive growth) will be observed around the stab areas, which can be preserved for 6 months in refrigerator. More than 1-year preservation is possible with GDO medium.

Remarks

The medium is also used for the preservation of *L. arabinosus, S. faecalis* and other Lactobacilli.

Lactobacilli develop the colony with clear portion around the stab area when 5 – 10 g/L of calcium carbonate is added to the medium. This makes differentiation of Lactobacilli easy.

Formula

Components	In 59.6 g/L
Yeast Extract	5.5 g
Peptone	12.5 g
Dextrose	11.0 g
Potassium Dihydrogen Phosphate	0.25 g
Dipotassium Phosphate	0.25 g
Sodium acetate	10.0 g
Magnesium Sulfate	0.1 g
Manganese Sulfate	5.0 mg
Ferrous Sulfate	5.0 mg
Agar	20.0 g
	pH 6.8 ±

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05800-20100301 Koh SAN

Lactobacilli Inoculum Broth *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05801	Powder	100 g	Dry, RT	3 years

Directions

Suspend 39.6 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute into the test tube, sterilized by autoclaving at 121°C for 10 minutes.

Remarks

The medium is used for the preparation of inoculation for *Lactobacilli*.

Formula

Components	In 39.6 g/L
Yeast Extract	5.5 g
Peptone	12.5 g
Dextrose	11.0 g
Potassium Dihydrogen Phosphate	0.25 g
Dipotassium Phosphate	0.25 g
Sodium acetate	10.0 g
Magnesium Sulfate	0.1 g
Manganese Sulfate	5.0 mg
Ferrous Sulfate	5.0 mg
	pH 6.8 ±

Back to the Index

05801-20100301 Koh SAKAI

B_{12} Culture Agar *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05802	Powder	100 g	Dry, RT	3 years

Directions

Suspend 49.7 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute into the test tube, sterilized by autoclaving at 121°C for 10 minutes, and use after solidifying in the butt position. Stab the medium for culture at 37°C for 18—24 hours, and preserve in cool place. Subculture 2 – 3 times a week.

Remarks

The medium is used for the preservation of *L. leichmannii* for B_{12} quantitative analysis. The medium becomes clouded just after autoclaving due to high temperature, and becomes clear when cool down.

Formula

Components	In 49.7 g/L
Yeast Extract	8.5 g
Peptone	8.5 g
Dextrose	11.0 g
Potassium Dihydrogen Phosphate	2.0 g
Tomato Juice Powder	3.7 g
Polysorbate 80	1.0 g
Agar	15.0 g
	pH 6.9 ±

Back to the Index

05802-20100301 Koh SAN

B_{12} Inoculum Broth *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05803	Powder	100 g	Dry, RT	3 years

Directions

Suspend 34.7 g of the dehydrated medium in 1,000 mL of distilled water, mix well and heat to dissolve the medium. Distribute into the test tube, sterilized by autoclaving at 121°C for 10 minutes.

Remarks

The medium is used for the preparation of inoculation for *L. leichmannii* for B_{12} quantitative analysis.

Formula

Components	In 34.7 g/L
Yeast Extract	8.5 g
Peptone	8.5 g
Dextrose	11.0 g
Potassium Dihydrogen Phosphate	2.0 g
Tomato Juice Powder	3.7 g
Polysorbate 80	1.0 g

pH 6.9 ±

Back to the Index

05803-20100301 Koh SAN

B_{12} Assay Medium (set) *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05819	6 x 2mL 10% Polysorbate 80	50 g	Cool	3 years

Directions

Suspend 8.3 g of the dehydrated medium in about 80-90 mL of distilled water, mix well and heat to dissolve the medium, and cool down the solution. After adjusting the pH to 6.2±0.1, add 2.0 mL of Polysorbate 80, and add distilled water to make total volume 100 mL.
Distribute into the test tube, and double the total volume with the distilled water after adding the sample. Sterilize by autoclaving at 121°C for 5 minutes. Inoculate the strain for culture at 37°C for 16 – 24 hours. Incubate 72 hours for the purpose of acidimetry.

Remarks

Strain to be used is *Lactobacillus leichmannii* ATCC7830 (available also from Nissui)

Range of response:
0.01 ng～0.2 ng/tube (5 mL)
Incubation temperature should be constant (within ±0.5°C).
Pay at most attention to preserve the strains.

Storage

Cap tightly and keep at cool place (2 – 10°C).

Formula

As directed in U.S.P.XIX (1975)
pH 6.2±0.1

Back to the Index

05819-20100301 Koh SAKAI

Pyridoxine Assay Medium *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05815	Powder	50 g	Cool	3 years

Directions

Suspend 13.0 g of the dehydrated medium in about 80-90 mL of distilled water, mix well and heat to dissolve the medium, and cool down the solution. After adjusting the pH to 5.2±, add distilled water to make total volume 100 mL.
Distribute into the flask or test tube, and double the total volume with the distilled water after adding the sample. Sterilize by boiling at 100°C for 10 - 20 minutes.
Inoculate the strain for culture at 30°C for 16 – 24 hours.

Remarks

Strain to be used is *Saccharomyces uvarum (carlsbergensis)* strain 4228 ATCC 9080 (available also from Nissui)
Range of response:
2.5 ng～25 ng/tube (10 mL)

In case of incubating in the test tube, all test tubes should be similarly slanted more than 25 degree at the angle.

Storage

Cap tightly and keep at cool place (2 – 10°C).

Formula

Improved formula of Atkin et al. method
pH 5.2±0.1

Back to the Index

05815-20100301 Koh SAKAI

Niacin Assay Medium *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05816	Powder	50 g	Cool	3 years

Directions

Suspend 7.7 g of the dehydrated medium in about 80-90 mL of distilled water, mix well and heat to dissolve the medium, and cool down the solution. After adjusting the pH to 7.1±, add distilled water to make the total volume 100 mL.
Distribute into the test tube, and double the total volume with the distilled water after adding the sample. Sterilize by autoclaving at 121°C for 5 minutes. Inoculate the strain for culture at 37°C for 16 – 24 hours. Incubate 72 hours for the purpose of acidimetry.

Remarks

Strain to be used is *Lactobacillus arabinosus* strain 17-5 ATCC 8014 (available also from Nissui)
Range of response:
0.02 μg～0.2 μg/tube (10 mL)
0.01 μg～0.1 μg/tube (5 mL)
0.01 μg～0.1 μg/tube (2 mL)

Storage

Cap tightly and keep at cool place (2 – 10°C).

Formula

As directed in N.F.XIV (1975)
pH 7.1±0.1

Back to the Index

05816-20100301 Koh SAKAI

Folic Acid Assay Medium *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05814	**Powder**	**50 g**	**Cool**	**3 years**

Directions

Suspend 11.4 g of the dehydrated medium in about 50 mL of distilled water, mix well and heat to dissolve the medium, and cool down the solution. After adjusting the pH to 7.1±0.1, add distilled water to make the total volume 100 mL.
Distribute into the test tube, and double the total volume with the distilled water after adding the sample. Sterilize by autoclaving at 121°C for 5 minutes. Inoculate the strain for culture at 30°C for 16 – 24 hours. Incubate 72 hours for the purpose of acidimetry.

Remarks

Strain to be used is *Streptococcus faecalis* "R" ATCC 8043 (available also from Nissui)
Range of response:
0.5 ng～5 ng/tube (10 mL)
0.2 ng～2 ng/tube (5 mL)
0.05 ng～0.5 ng/tube (2 mL)

Storage

Cap tightly and keep at cool place (2 – 10°C).

Formula

As directed in AOAC 12th Ed. (1975)
pH 7.1±0.1

Back to the Index

05814-20100301 Koh SAN

Pantothenate Assay Medium *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05817	Powder	50 g	Cool	3 years

Directions

Suspend 7.7 g of the dehydrated medium in about 80-90 mL of distilled water, mix well and heat to dissolve the medium, and cool down the solution. After adjusting the pH to 7.1±, add distilled water to make the total volume 100 mL.
Distribute into the test tube, and double the total volume with the distilled water after adding the sample. Sterilize by autoclaving at 121°C for 5 minutes. Inoculate the strain for culture at 37°C for 16 – 24 hours. Incubate 72 hours for the purpose of acidimetry.

Remarks

Strain to be used is *Lactobacillus arabinosus* strain 17-5 ATCC 8014 (available also from Nissui)
Range of response:
0.02 µg～0.2 µg/tube (10 mL)
0.01 µg～0.1 µg/tube (5 mL)
0.01 µg～0.05 µg/tube (2 mL)

Storage

Cap tightly and keep at cool place (2 – 10°C).

Formula

As directed in U.S.P. XV.
pH 7.1±0.1

Back to the Index

05817-20100301 Koh SAKAI

Biotin Assay Medium *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05818	Powder	50 g	Cool	3 years

Directions

Suspend 7.7 g of the dehydrated medium in about 80-90 mL of distilled water, mix well and heat to dissolve the medium, and cool down the solution. After adjusting the pH to 7.1±, add distilled water to make the total volume 100 mL.
Distribute into the test tube, and double the total volume with the distilled water after adding the sample. Sterilize by autoclaving at 121°C for 5 minutes. Inoculate the strain for culture at 37°C for 16 – 24 hours. Incubate 72 hours for the purpose of acidimetry.

Remarks

Strain to be used is *Lactobacillus arabinosus* strain 17-5 ATCC 8014 (available also from Nissui)
Range of response:
0.2 ng～2 ng/tube (10 mL)
0.1 ng～1 ng/tube (5 mL)
0.05 ng～0.5 ng/tube (2 mL)

Storage

Cap tightly and keep at cool place (2 – 10°C).

Formula

Removed biotin from the formula of Pantothenate Assay Medium, and added 400 µg of pantothenate instead. All other ingredients remain unchanged.
pH 7.1±0.1

Back to the Index

05818-20100301 Koh SAKAI

Powdered Agar *"Nissui"*

(For microbiological usage)

Code	Form	Package	Storage	Shelf Life
05835	**Powder**	**500 g**	**Dry, RT**	**5 years**

Directions

Product is purified agar for microbiological usage. It rarely contains ingredient that inhibits growth of bacteria, and then it fits general usage for microbiological testing. And high jelly strength make it economical.

Remarks

Product is purified agar for microbiological testing so that it supports bacteria growth.

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05835-20100301 Koh SAN

Nissui Tube Triple Sugar Iron Agar

Code	Form	Package	Storage	Shelf Life
05169	Solid (In Tubes)	4 mL × 50 Tubes	Cool	6 Months

Formula

Components	In 61.4 g/L
Meat Extract	5.0 g
Sodium Chloride	5.0 g
Peptone	15.0 g
Lactose	10.0 g
Sucrose	10.0 g
Dextrose	1.0 g
Ferric Citrate	0.2 g
Sodium Thiosulfate	0.2 g
Phenol Red	0.02 g
Agar	15.0 g
	pH 7.3 ±

Back to the Index

05169-20100301 Koh SAKAI

Nissui Tube Sulfide Indole Motility Medium

Code	Form	Package	Storage	Shelf Life
05170	Solid (In Tubes)	5 mL × 50 Tubes	Cool	4 Months

Formula

Components	In 35.0 g/L
Meat Extract	3.0 g
Peptone	28.0 g
Sodium Thiosulfate	0.025 g
Ferric Ammonium Citrate	1.0 g
Agar	3.0 g
	pH 7.2 ±

Back to the Index

05170-20100301 Koh SAKAI

Nissui Tube Lysine Indole Motility Medium

Code	Form	Package	Storage	Shelf Life
05171	Solid (In Tubes)	5 mL × 50 Tubes	Cool	6 Months

Formula

Components	In 30.0 g/L
Peptone	12.8 g
Yeast Extract	3.0 g
Dextrose	1.0 g
L-Lysine Hydrochloride	10.0 g
L-Tryptophan	0.5 g
Brom Cresol Purple	0.02 g
Agar	2.7 g
	pH 6.8 ±

Back to the Index

05171-20100301 Koh SAI

Food Stamp *"Nissui"* Desoxycholate Agar (DESO)

(Simple and Easy Stamp Medium for Food Hygiene test: Coliform)

Code	Form	Package	Storage	Shelf Life
06053	Solid	30 Plates	Cool	6 Months
06052		100 Plates		

Directions

Food Stamp is a prepared agar medium for Stamp method, on which agar stands up slightly above the rim of special Petri dish of 10 cm^2. Take off the cap of Food Stamp and gently press the medium against the surface of specimen. The surface of agar is elastic enough to be pressed firmly against the specimen. Press against the different parts of the specimen when several kinds of Food Stamps are tested simultaneously. Put the cap again immediately after pressing. Incubate at 35-37 °C for 24 hours.

Formula

Components	In 45.0 g/L
Sodium Desoxycholate	1.0 g
Peptone	10.0 g
Ferric Ammonium Citrate	2.0 g
Sodium Chloride	5.0 g
Dipotassium Phosphate	2.0 g
Lactose	10.0 g
Neutral Red	0.033 g
Agar	15.0 g
	pH 7.2 ± 0.2

Back to the Index

Interpretations

Count all colonies on the surface.

Storage

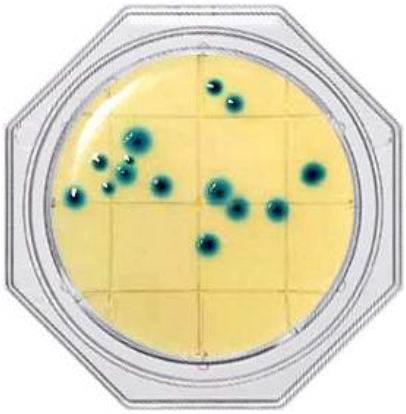
Keep dry at 4 – 10 °C. Do not freeze.

NISSUI PHARMACEUTICAL CO., LTD.

06053-20100301 Koh SAN

Food Stamp *"Nissui"* X-GAL Agar (XGAL)

(Simple and Easy Stamp Medium for Food Hygiene test: Coliform)



Code	Form	Package	Storage	Shelf Life
06764	Solid	30 Plates	Cool	5 Months
06763		100 Plates		

Directions

Food Stamp is a prepared agar medium for Stamp method, on which agar stands up slightly above the rim of special Petri dish of 10 cm^2. Take off the cap of Food Stamp and gently press the medium against the surface of specimen. The surface of agar is elastic enough to be pressed firmly against the specimen. Press against the different parts of the specimen when several kinds of Food Stamps are tested simultaneously. Put the cap again immediately after pressing. Incubate at 35-37 °C for 24 hours.
Coliform group decompose X-GAL (colorimetric enzyme substrate) in the medium to bring out blue / blue-green color by β-galactosidase produced by Coliforms.
Growth of all other bacteria will be inhibited, and they develop only white colonies even are they grow.

Interpretations

Count all blue / blue-green color colonies grown on the surface.

Storage

Keep dry at 4 – 10 °C. Do not freeze.

Formula

Components	In 44.3 g/L
Peptone	15.0 g
Yeast Extract	5.0 g
Sodium Pyruvate	1.0 g
Sodium Chloride	5.0 g
Disodium Phosphate	2.0 g
Potassium nitrate	1.0 g
Sodium Lauryl Sulfate	0.15 g
5-bromo-4-chloro-3-indolyl-β-D-galactopyranoside (X-GAL)	0.15 g
Agar	15.0 g
	pH 7.1 ±

NISSUI PHARMACEUTICAL CO., LTD.

06764-20100302 Koh SAN

Food Stamp *"Nissui"* Standard Method Agar (SMA)

(Simple and Easy Stamp Medium for Food Hygiene test: Total Viable Bacterial Count)

Code	Form	Package	Storage	Shelf Life
06051	Solid	30 Plates	Cool	6 Months
06050		100 Plates		

Directions

Food Stamp is a prepared agar medium for Stamp method, on which agar stands up slightly above the rim of special Petri dish of 10 cm^2. Take off the cap of Food Stamp and gently press the medium against the surface of specimen. The surface of agar is elastic enough to be pressed firmly against the specimen. Press against the different parts of the specimen when several kinds of Food Stamps are tested simultaneously.
Put the cap again immediately after pressing.
This Food Stamp is designed to measure and detect the degree of contamination of the specimen.
Incubate at 35-37 °C for 24 - 48 hours.

Interpretations

Count all colonies grown on the surface.

Storage

Keep dry at 4 – 10 °C. Do not freeze.

Formula

Components	In 23.5 g/L
Yeast Extract	2.5 g
Peptone	5.0 g
Dextrose	1.0 g
Agar	15.0 g
	pH 7.0 ±

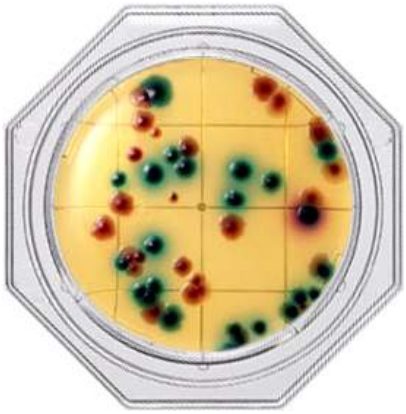
Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

06051-20100302 Koh SAN

Food Stamp *"Nissui"* XM-G Agar (XM-G)

(Simple and Easy Stamp Medium for Food Hygiene test: *Escherichia coli* and Coliforms)



Code	Form	Package	Storage	Shelf Life
06776	Solid	30 Plates	Cool	5 Months
06775		100 Plates		

Directions

Food Stamp is a prepared agar medium for Stamp method, on which agar stands up slightly above the rim of special Petri dish of 10 cm^2. Take off the cap of Food Stamp and gently press the medium against the surface of specimen. The surface of agar is elastic enough to be pressed firmly against the specimen. Press against the different parts of the specimen when several kinds of Food Stamps are tested simultaneously. Put the cap again immediately after pressing.
Incubate at 35°C for 20±2 hours.
Coliform group decompose X-GAL (colorimetric enzyme substrate) in the medium to bring out blue / blue-green color byβ-galactosidase produced by Coliforms.
Growth of all other bacteria will be inhibited, and they develop only white colonies even are they grow.

Interpretations

Count all pink / red-purple color colonies grown on the surface as Coliforms.
Count all blue / blue-purple color colonies grown on the surface as *E. coli*.
E. coli O-157 does not have a β-glucuronidase, and then it will be identified as a Coliform.
Overtime incubation may foster growth of microorganisms other than *E. coli* and Coliforms.
Red color may be observed if the sample contains lactobacilli that has also a β-galactosidase.

Storage

Keep dry at 4 – 10°C. Do not freeze.

Formula

Components	In 39.3 g/L
Peptone	10.0 g
Sodium Pyruvate	1.0 g
L-Tryptophan	1.0 g
D-Sorbitol	1.0 g
Sodium Chloride	5.0 g
Sodium dihydrogen Phosphate	2.2 g
Disodium Phosphate	2.7 g
Potassium nitrate	1.0 g
Sodium Lauryl Sulfate	0.2 g
5-bromo-4-chloro-3-indolyl-β-D-glucuronide (X-GLUC)	0.1 g
5-bromo-6-chloro-3-indolyl-β-D-galactopyranoside (MAGENTA-GAL)	0.1 g
Agar	15.0 g
	pH 7.0 ± 0.2

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

06776-20100302 Koh SAN

Food Stamp *"Nissui"* TCBS Agar (TCBS)

(Simple and Easy Stamp Medium for Food Hygiene test: *Vibrio parahaemolyticus*)

Code	Form	Package	Storage	Shelf Life
06055	Solid	30 Plates	Cool	6 Months
06054		100 Plates		

Directions

Food Stamp is a prepared agar medium for Stamp method, on which agar stands up slightly above the rim of special Petri dish of 10 cm^2. Take off the cap of Food Stamp and gently press the medium against the surface of specimen. The surface of agar is elastic enough to be pressed firmly against the specimen. Press against the different parts of the specimen when several kinds of Food Stamps are tested simultaneously. Put the cap again immediately after pressing.
Incubate at 35-37 °C for 24 hours.

Interpretations

Green (*V. parahaemolyticus*) and Yellow (*V. alginolyticus*) colonies are observed on the surface.
Possible contamination of *V. parahaemolyticus* is suspected when many yellow colonies (*V. alginolyticus*) are observed.

Storage

Keep dry at 4 – 10 °C. Do not freeze.

Formula

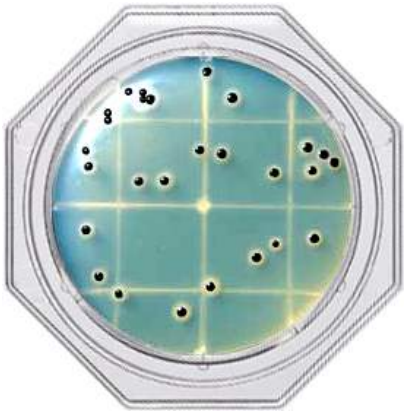
Components	In 86.0 g/L
Yeast Extract	5.0 g
Peptone	10.0 g
Saccharose	17.0 g
Sodium Thiosulfate	10.0 g
Sodium Citrate	10.0 g
Sodium Cholate	3.0 g
Ferric Citrate	1.0 g
Sodium Chloride	10.0 g
Oxgall	5.0 g
Brom Thymol Blue	0.04 g
Thymol Blue	0.04 g
Agar	15.0 g
	pH 8.8 ±

NISSUI PHARMACEUTICAL CO., LTD.

06055-20100302 Koh SAN

Food Stamp *"Nissui"*
TGSE Agar (TGSE)

(Simple and Easy Stamp Medium for Food Hygiene test: *Staphylococcus aureus*)



Code	Form	Package	Storage	Shelf Life
06057	Solid	30 Plates	Cool	6 Months
06056		100 Plates		

Directions

Food Stamp is a prepared agar medium for Stamp method, on which agar stands up slightly above the rim of special Petri dish of 10 cm^2. Take off the cap of Food Stamp and gently press the medium against the surface of specimen. The surface of agar is elastic enough to be pressed firmly against the specimen. Press against the different parts of the specimen when several kinds of Food Stamps are tested simultaneously. Put the cap again immediately after pressing.
Incubate at 35-37 °C for 48 hours.

Interpretations

Staphylococcus aureus forms black colonies with milky surroundings around the colonies. *S. aureus* shows a positive egg yolk reaction. Black colony with negative egg yolk reaction is not interpreted as *S. aureus*.

Storage

Keep dry at 4 – 10 °C. Do not freeze.

Formula

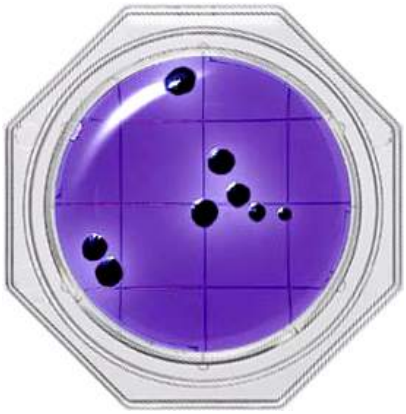
Components	In 1 L
Meat Extract	3.0 g
Peptone	15.0 g
Soya Peptone	2.0 g
Sodium Chloride	65.0 g
Lithium Chloride	5.0 g
Calcium Chloride	1.0 g
Mannitol	5.0 g
Glycine	5.0 g
Potassium Tellurite	0.1 g
Egg yolk	5%
Agar	15.0 g
	pH 7.0 ± 0.2

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

Food Stamp *"Nissui"* MLCB Agar (MLCB)

(Simple and Easy Stamp Medium for Food Hygiene test: *Salmonella*)



Code	Form	Package	Storage	Shelf Life
06751	Solid	30 Plates	Cool	4 Months
06750		100 Plates		

Directions

Food Stamp is a prepared agar medium for Stamp method, on which agar stands up slightly above the rim of special Petri dish of 10 cm^2. Take off the cap of Food Stamp and gently press the medium against the surface of specimen. The surface of agar is elastic enough to be pressed firmly against the specimen. Press against the different parts of the specimen when several kinds of Food Stamps are tested simultaneously. Put the cap again immediately after pressing.
Incubate at 35-37 °C for 24 hours.

Interpretations

Salmonella produces hydrogen sulfide and forms black colonies or colonies with black center.
Citrobacter may develop black colonies just like Salmonella.

Purple colonies are not *Salmonella*.

Storage

Keep dry at 4 – 10 °C. Do not freeze.

Formula

Components	In 49.0 g/L
Yeast Extract	5.0 g
Peptone	10.0 g
Heart Extract Powder	2.0 g
Sodium Chloride	4.0 g
Mannitol	3.0 g
L-Lysine Hydrochloride	5.0 g
Sodium Thiosulfate	4.0 g
Ferric Ammonium Citrate	1.0 g
Brilliant Green	0.0125 g
Crystal Violet	0.01 g
Agar	15.0 g
	pH 6.8 ±

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

06751-20100302 Koh SAN

Food Stamp *"Nissui"* Cereus Agar (CERE)

(Simple and Easy Stamp Medium for Food Hygiene test: *Bacillus cereus*)

Code	Form	Package	Storage	Shelf Life
06753	Solid	30 Plates	Cool	6 Months
06752		100 Plates		

Directions

Food Stamp is a prepared agar medium for Stamp method, on which agar stands up slightly above the rim of special Petri dish of 10 cm^2. Take off the cap of Food Stamp and gently press the medium against the surface of specimen. The surface of agar is elastic enough to be pressed firmly against the specimen. Press against the different parts of the specimen when several kinds of Food Stamps are tested simultaneously. Put the cap again immediately after pressing. Incubate at 35-37 °C for 24 hours.

Interpretations

Bacillus cereus forms white colonies with an irregular rim, which develop opaque zone (positive egg yolk reaction) around the colonies and change the color of medium to Red.

Small colonies with negative egg yolk reaction are not *B. cereus*.

Storage

Keep dry at 4 – 10 °C. Do not freeze.

Formula

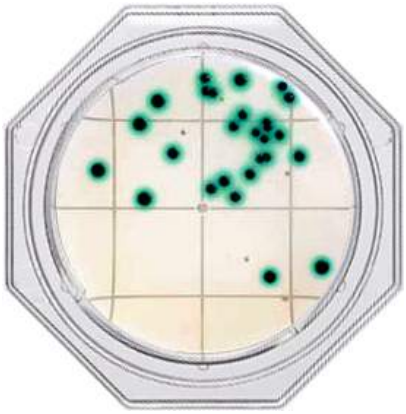
Components	In 1 L
Heart Extract Powder	5.0 g
Proteose Peptone	10.0 g
Peptone	10.0 g
Sodium Chloride	5.0 g
Lactose	10.0 g
Glycine	10.0 g
Phenol Red	0.05 g
Polymyxin B	50,000 units
Egg Yolk Suspension	10%
Agar	20.0 g
	pH 7.1 ± 0.3

NISSUI PHARMACEUTICAL CO., LTD.

06753-20100303 Koh SAN

Food Stamp *"Nissui"* X-SA Agar (X-SA)

(Simple and Easy Stamp Medium for Food Hygiene test: *Staphylococcus aureus*)



Code	Form	Package	Storage	Shelf Life
06757	Solid	30 Plates	Cool	4 Months
06756		100 Plates		

Directions

Food Stamp is a prepared agar medium for Stamp method, on which agar stands up slightly above the rim of special Petri dish of 10 cm^2. Take off the cap of Food Stamp and gently press the medium against the surface of specimen. The surface of agar is elastic enough to be pressed firmly against the specimen. Press against the different parts of the specimen when several kinds of Food Stamps are tested simultaneously. Put the cap again immediately after pressing.
Incubate at 35 - 37 °C for 22 - 24 hours.

Interpretations

Staphylococcus aureus forms blue (light blue) lenticular wet grazed colonies, and Coagulase-negative staphylococcus (CNS) forms small white or light blue colonies. Small light blue matte flat colonies are not *Staphylococcus aureus.*

Storage

Keep dry at 4 – 10 °C. Do not freeze.

Formula

Components	In 1 L
Peptone	14.0 g
Meat Extract	3.0 g
Lithium Chloride	5.0 g
Mannitol	10.0 g
Agar	14.0 g
Selective Agent	0.7 g
Chromogenic Substrate	0.2 g
	pH 7.4 ± 0.1

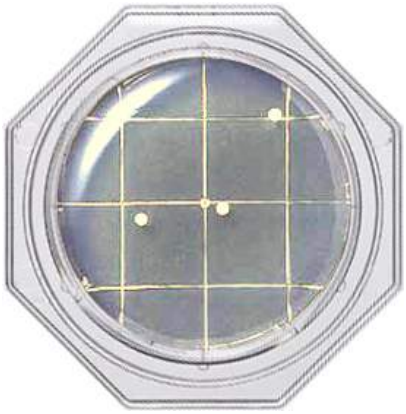
Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

06757-20100303 Koh SAN

Food Stamp *"Nissui"* Sabouraud Agar (SABO)

(Simple and Easy Stamp Medium for Food Hygiene test: *Bacillus cereus*)



Code	Form	Package	Storage	Shelf Life
06064	Solid	30 Plates	Cool	6 Months
06063		100 Plates		

Directions

Food Stamp is a prepared agar medium for Stamp method, on which agar stands up slightly above the rim of special Petri dish of 10 cm^2. Take off the cap of Food Stamp and gently press the medium against the surface of specimen. The surface of agar is elastic enough to be pressed firmly against the specimen. Press against the different parts of the specimen when several kinds of Food Stamps are tested simultaneously. Put the cap again immediately after pressing.
Incubate at 20-25°C for 2-5 days.

Interpretations

Fungi develop characteristic fluffy colonies on the surface.
All characteristic colonies should be counted for evaluation.

Storage

Keep dry at 4 – 10°C. Do not freeze.

Formula

Components	In 65.0 g/L
Peptone	10.5 g
Dextrose	40.0 g
Agar	14.5 g

pH 5.6 ± 0.2

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

06064-20100303 Koh SAN

Food Stamp *"Nissui"*
Potato dextrose Agar with Chloramphenicol (PDA)

(Simple and Easy Stamp Medium for Food Hygiene test: Food poisoning Fungi)

Code	Form	Package	Storage	Shelf Life
06755	Solid	30 Plates	Cool	5 Months
06754		100 Plates		

Directions

Food Stamp is a prepared agar medium for Stamp method, on which agar stands up slightly above the rim of special Petri dish of 10 cm^2. Take off the cap of Food Stamp and gently press the medium against the surface of specimen. The surface of agar is elastic enough to be pressed firmly against the specimen. Press against the different parts of the specimen when several kinds of Food Stamps are tested simultaneously.
Put the cap again immediately after pressing.
Incubate at 20-25°C for 2-5 days.

Interpretations

Since Chloramphenicol in the medium inhibits the growths of other bacteria, all colonies can be counted for Fungi.

Storage

Keep dry at 4 – 10°C. Do not freeze.

Formula

Components	In 39.1 g/L
Potato Extract	3.9 g
Dextrose	21.0 g
Chloramphenicol	100 mg
Agar	14.1 g
	pH 5.6 ± 0.2

Back to the Index

06755-20100303 Koh SAN

Food Plate X *"Nissui"*

(Quick Microbiological Test for Liquid Foods)

Code	Form	Package	Storage	Shelf Life
06231	Solid	10 Plates	Cool	5 Months

Directions

Take out a plate from the container, and dip the plate into liquid specimen at length.
Take up the plate from the specimen, and bring back to the container after excess specimen is eliminated.
Incubate at 37°C for 24 hours.

1.Viable Bacterial count: Estimate a viable bacterial count/ml by comparing its density of all colonies grown on the surface of modified BHI medium with a control chart.
2.Coliform group: Estimate Coliform group/ml by comparing its density of blue colonies grown on the surface of modified X-GAL medium with a control chart.

Back to the Index

06231-20100304 Koh SAN

Compact Dry “Nissui” TC

(Simple and Easy Dry Medium for Microbial Count: Total Viable Bacterial Count)

Link to User's Manual

English

Traditional Chinese

Simplified Chinese

Code	Form	Package	Storage	Shelf Life
06740	Dried	40 Plates	RT	18 Months
06741		240 Plates		

Directions

Compact Dry is ready to use and portable plate containing dried sheet medium.
Detach necessary number of plate from a set of four by bending up and down while pressing the lid. It is available for solid food staff (homogenize with buffer solution), water or liquid sample and swab test. Drop 1 mL of specimen in the middle of dry sheet of Compact Dry (except Compact Dry SL). Inoculated sample diffuses automatically and evenly into the plate (dried sheet medium is being gel form).
Specimen should be diluted by buffer solution to the level of concentration of less than 300 cfu/plate. If bacteria more than 10^4 cfu were inoculated on a plate, no colonies are formed, and no colored colonies eventually are appeared on the plate but all plate sheets becomes seemingly colored.
Put the cap again immediately after inoculation.
Incubate at 35±1°C for 48±3 hours.

Interpretations

The medium consists of non-selective medium and redox indicator of 2,3,5-Tripenyl Tetrazolium Chloride (TTC). Colonies grown on Compact Dry TC are almost all red colored.
Since some microorganism may not reduce TTC to develop Red / Pink color, Compact Dry TC may develop colonies that are not necessarily clear red color.

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

06740-20100304 Koh SAN

Compact Dry “Nissui” CF

(Simple and Easy Dry Medium for Microbial Count: Coliforms)

Link to User's Manual

English

Traditional Chinese

Simplified Chinese

Code	Form	Package	Storage	Shelf Life
06744	Dried	40 Plates	RT	18 Months
06745		240 Plates		

Directions

Compact Dry is ready to use and portable plate containing dried sheet medium. Detach necessary number of plate from a set of four by bending up and down while pressing the lid. It is available for solid food staff (homogenize with buffer solution), water or liquid sample and swab test. Drop 1 mL of specimen in the middle of dry sheet of Compact Dry (except Compact Dry SL). Inoculated sample diffuses automatically and evenly into the plate (dried sheet medium is transforming to gel form). Specimen should be diluted by buffer solution to the level of concentration of less than 300 cfu/plate. If bacteria more than 10^4 cfu were inoculated on a plate, no colonies are formed, and no colored colonies eventually are appeared on the plate but all plate sheets becomes seemingly colored.
Put the cap again immediately after inoculation.
Incubate at 35±1°C for 24±3 hours.

Interpretations

Coliforms grow to develop Blue / Blue green colonies as the medium contains chromogenic enzyme substrate X-GAL. Bacteria other than Coliforms are inhibited to grow, and they do not form any colored colonies even if they grow.

Back to the Index

06744-20100304 Koh SAKAI

Compact Dry “Nissui” EC

(Simple and Easy Dry Medium for Microbial Count: *E. coli* and Coliforms)

Link to User's Manual

English

Traditional Chinese

Simplified Chinese

Code	Form	Package	Storage	Shelf Life
06742	Dried	40 Plates	RT	18 Months
06743		240 Plates		

Directions

Compact Dry is ready to use and portable plate containing dried sheet medium. Detach necessary number of plate from a set of four by bending up and down while pressing the lid. It is available for solid food staff (homogenize with buffer solution), water or liquid sample and swab test. Drop 1 mL of specimen in the middle of dry sheet of Compact Dry (except Compact Dry SL). Inoculated sample diffuses automatically and evenly into the plate (dried sheet medium is transforming to gel form). Specimen should be diluted by buffer solution to the level of concentration of less than 300 cfu/plate. If bacteria more than 10^4 cfu were inoculated on a plate, no colonies are formed, and no colored colonies eventually are appeared on the plate but all plate sheets become seemingly colored.

Put the cap again immediately after inoculation.

Incubate at 35±1°C for 24±3 hours.

Interpretations

Medium contains two kinds of chromogenic enzyme substrate, Magenta-GAL and X-GLUC.

Red / Pink color for Coliforms except for *E. coli* while Blue / Blue purple color for *E. coli* are observed respectively. Combined total umber of both colonies of Red and Blue is the total number of Coliform group.

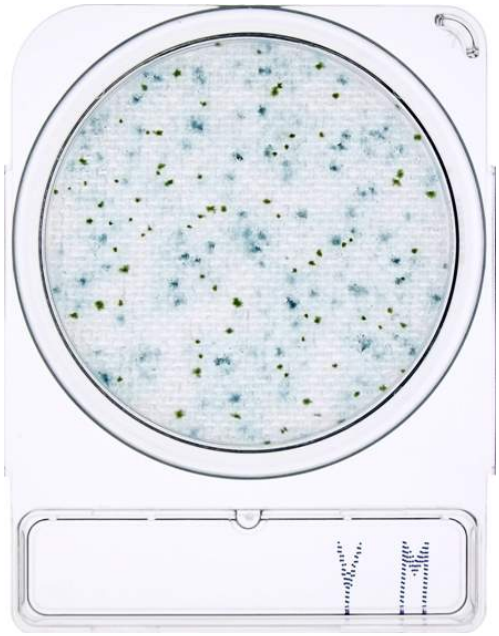
Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

06742-20100304 Koh SAN

Compact Dry “Nissui” YM

(Simple and Easy Dry Medium for Microbial Count: Yeast and Mold)



Link to User's Manual

English

Traditional Chinese

Simplified Chinese

Code	Form	Package	Storage	Shelf Life
06746	Dried	40 Plates	RT	18 Months
06747		240 Plates		

Directions

Compact Dry is ready to use and portable plate containing dried sheet medium. Detach necessary number of plate from a set of four by bending up and down while pressing the lid. It is available for solid food staff (homogenize with buffer solution), water or liquid sample and swab test. Drop 1 mL of specimen in the middle of dry sheet of Compact Dry (except Compact Dry SL). Inoculated sample diffuses automatically and evenly into the plate (dried sheet medium is transforming to gel form). Specimen should be diluted by buffer solution to the level of concentration of less than 300 cfu/plate. If bacteria more than 10^4 cfu were inoculated on a plate, no colonies are formed, and no colored colonies eventually are appeared on the plate but all plate sheets becomes seemingly colored.
Put the cap again immediately after inoculation.
Incubate at 20 - 25°C for 3 – 7 days.

Interpretations

The medium contains chromogenic enzyme substrate X-Phos that develops Blue color for many yeast, and antibiotics that inhibit the growth of bacteria. Mold forms the cottony colonies with characteristic color. Some kinds of yeast do not develop Blue color on Compact Dry YM.

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

06746-20100304 Koh SAKAI

Compact Dry “Nissui” VP

(Simple and Easy Dry Medium for Microbial Count: *Vibrio parahaemolyticus*)

Link to User's Manual

English

Traditional Chinese

Simplified Chinese

Code	Form	Package	Storage	Shelf Life
06746	Dried	40 Plates	RT	18 Months
06747		240 Plates		

Directions

Compact Dry is ready to use and portable plate containing dried sheet medium. Detach necessary number of plate from a set of four by bending up and down while pressing the lid. It is available for solid food staff (homogenize with buffer solution), water or liquid sample and swab test. Drop 1 mL of specimen in the middle of dry sheet of Compact Dry (except Compact Dry SL). Inoculated sample diffuses automatically and evenly into the plate (dried sheet medium is transforming to gel form). Specimen should be diluted by buffer solution to the level of concentration of less than 300 cfu/plate. If bacteria more than 10^4 cfu were inoculated on a plate, no colonies are formed, and no colored colonies eventually are appeared on the plate but all plate sheets becomes seemingly colored.
Put the cap again immediately after inoculation.
Incubate at 35±2°C for 18-20 hours.

Interpretations

The medium contains chromogenic enzyme substrate X-Phos that develops Blue color for many yeast, and antibiotics that inhibit the growth of bacteria. Mold forms the cottony colonies with characteristic color. Some of yeast does not develop Blue color on Compact Dry YM.

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

06748-20100304 Koh SAN

Compact Dry “Nissui” X-SA

(Simple and Easy Dry Medium for Microbial Count: *Staphylococcus aureus*)

Link to User's Manual

English

Traditional Chinese

Simplified Chinese

Code	Form	Package	Storage	Shelf Life
06729	Dried	40 Plates	RT	18 Months
06730		240 Plates		

Directions

Compact Dry is ready to use and portable plate containing dried sheet medium. Detach necessary number of plate from a set of four by bending up and down while pressing the lid. It is available for solid food staff (homogenize with buffer solution), water or liquid sample and swab test. Drop 1 mL of specimen in the middle of dry sheet of Compact Dry (except Compact Dry SL). Inoculated sample diffuses automatically and evenly into the plate (dried sheet medium is transforming to gel form). Specimen should be diluted by buffer solution to the level of concentration of less than 300 cfu/plate. If bacteria more than 10^4 cfu were inoculated on a plate, no colonies are formed, and no colored colonies eventually are appeared on the plate but all plate sheets becomes seemingly colored.
Put the cap again immediately after inoculation.
Incubate at 35±2°C for 24±2 hours.

Interpretations

Staphylococcus aureus generates light blue/blue colonies. Some bacteria other than *Staphylococcus aureus* may grow and generate white colonies.

Back to the Index

06729-20100304 Koh SAN

Compact Dry “Nissui” SL

(Simple and Easy Dry Medium for Microbial Count: *Salmonella*)

Code	Form	Package	Storage	Shelf Life
06732	Dried	40 Plates	RT	18 Months
06733		240 Plates		

Directions

Compact Dry is ready to use and portable plate containing dried sheet medium. Detach necessary number of plate from a set of four by bending up and down while pressing the lid. It is available for solid food staff (homogenize with buffer solution), water or liquid sample and swab test. Drop 0.1mL of enriched specimen at approx. 1 cm from the edge of plate gently. After inoculating the specimen, drop 1mL of sterilized water at the opposite point where specimen dropped. Water shall diffuse automatically.

Inoculated sample diffuses automatically and evenly into the plate (dried sheet medium is transforming to gel form).

Specimen should be diluted by buffer solution to the level of concentration of less than 300 cfu/plate. If bacteria more than 10^4 cfu were inoculated on a plate, no colonies are formed, and no colored colonies eventually are appeared on the plate but all plate sheets becomes seemingly colored.

Put the cap again immediately after inoculation.

Incubate at 41 - 43℃ for 20 - 24 hours.

Interpretations

<*Salmonella* Positive>

Black to Green isolated or fused colonies are observed, and sheet around the colonies is changed to Yellow If a large quantity of *Salmonella* is inoculated on a plate, no isolated colonies are formed (there may be several spots with fused Black or Green colonies), but whole plate sheets become seemingly Yellow.

<Salmonella Negative>

There is no color change occurred on the sheet. If it were occurred, the sheet color would be changed to Red or Reddish purple. No Black or Green colonies are observed.

The sheet color might be changed to Yellow caused by *Pseudomonas* or *Proteus*. But Yellow portion is small and limited because of their less motility.

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

06732-20100305 Koh SAN

Compact Dry “Nissui” X-BC

(Simple and Easy Dry Medium for Microbial Count: *Staphylococcus aureus*)

Link to User's Manual

English

Traditional Chinese

Simplified Chinese

Code	Form	Package	Storage	Shelf Life
06727	Dried	40 Plates	RT	12 Months
06728		240 Plates		

Directions

Compact Dry is ready to use and portable plate containing dried sheet medium. Detach necessary number of plate from a set of four by bending up and down while pressing the lid. It is available for solid food staff (homogenize with buffer solution), water or liquid sample and swab test. Drop 1 mL of specimen in the middle of dry sheet of Compact Dry (except Compact Dry SL). Inoculated sample diffuses automatically and evenly into the plate (dried sheet medium is transforming to gel form). Specimen should be diluted by buffer solution to the level of concentration of less than 300 cfu/plate. If bacteria more than 10^4 cfu were inoculated on a plate, no colonies are formed, and no colored colonies eventually are appeared on the plate but all plate sheets becomes seemingly colored.
Put the cap again immediately after inoculation.
Incubate at 35±2°C for 24±2 hours.

Interpretations

Bacillus cereus generates green/blue colonies. .

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

06727-20100305 Koh SAN

Easy Wiping Kit “Nissui”

(Easy and convenient swab kit designed for Compact Dry)

Code	Form	Package	Storage	Shelf Life
06738	1 mL/tube	200 Tubes	RT	2 Years

Direction for use

Unscrew the cap of tube, and pull out the cotton swab, with which wipe a specific area of surface of specimen material.
Drop back the cotton swab into the tube, and screw tightly. Shake or upside-down the tube well to mix for original specimen solution.
Unscrew the top-cap of the tube. By pressing the middle of tube, squeeze all original specimen solution (1 mL) out of the tube into 9 mL of sterilized diluting solution, which is used as a 10 times diluted specimen for inoculation.
If necessary, prepare further series of diluted specimen with the sterilized diluting solution, and inoculate 1 mL of specimen in the middle of Compact Dry “Nissui”.

Warning

Do not touch the cotton swab with finger.
Since Compact Dry “Nissui” detects up to 10^3 cfu colonies in a plate, original specimen solution may be inoculated direct in Compact Dry without any dilution if number of bacteria were suspected less than 10^3 cfu.
About 100 times specimen is easily prepared by adding 2 drops (0.1 mL) of specimen in Swab kit tube is dropped into 9 mL sterilized diluting solution.

Formula

Tube contains sterilized Buffered Sodium Chloride Peptone Solution (pH 7.0) ”Nissui”
Tube is so prepared that total volume dropped is 1mL when all solution is squeezed out.

Components	In 1 L
Peptone	1.0 g
Sodium Chloride	4.3 g
Potassium Dihydrogen Phosphate	3.56 g
Disodium Phosphate (anhydrous)	7.23 g

Back to the Index

06738-20100308 Koh SAN

Sterilized Diluting Solution “Nissui”

Code		Package	Storage	Shelf Life
01553	9mL × 4	4×8×4	RT	1 Year
01551	90mL	20×2		

Formula

Components	In 1 L of Distilled Water
Sodium Chloride	9.0 g
Disodium Phosphate	0.0785 g
Potassium Dihydrogen Phosphate	0.0127 g

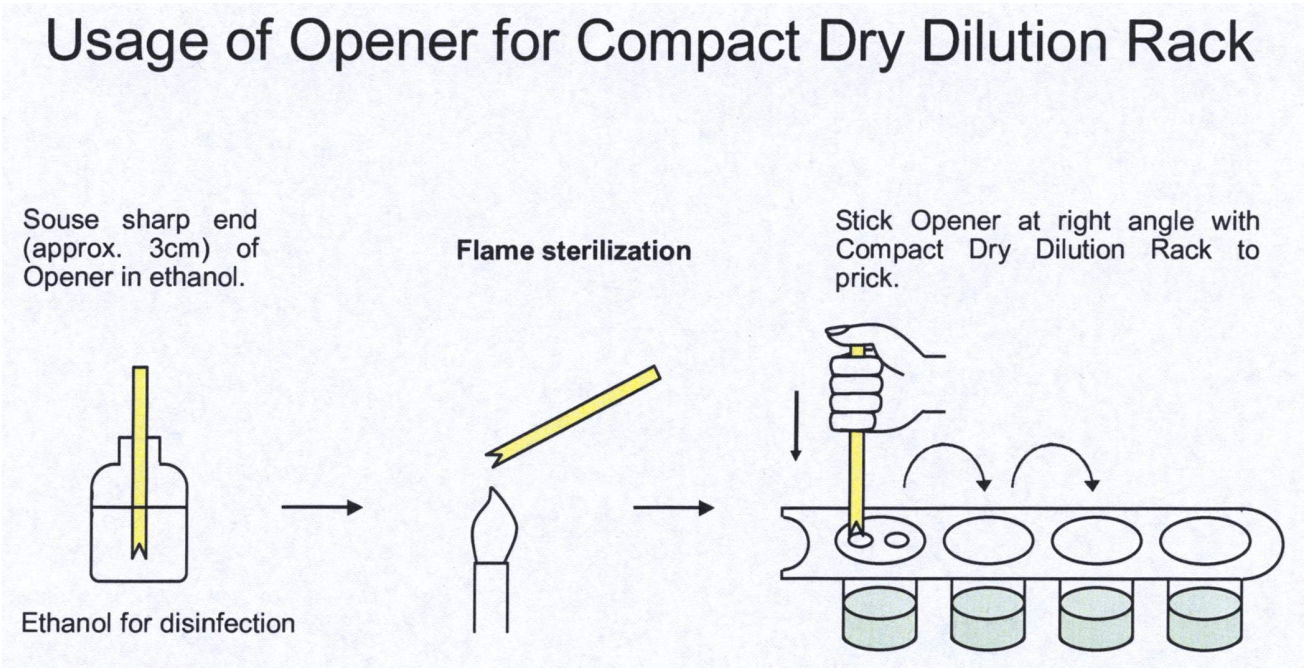
Back to the Index

01553-20100308 Koh SAN

Opener with Sterilized Diluting Solution *"Nissui"*

Code	Form	Package	Storage	Shelf Life
06737	-	1	-	-

Usage of Opener for Compact Dry Dilution Rack


Souse sharp end (approx. 3cm) of Opener in ethanol.
Flame sterilization
Stick Opener at right angle with Compact Dry Dilution Rack to prick.
Ethanol for disinfection

Back to the Index

06737-20100308 Koh SAN

Wiping Frame *"Nissui"*

Code	Form	Package	Storage	Shelf Life
06598	-	250	-	-

Back to the Index

06598-20100308 Koh SAN

Sterilized Spoid *"Nissui"*

Code	Form	Package	Storage	Shelf Life
06472	-	1000	-	-

Back to the Index

06472-20100308 Koh SAN

Clean Stamp *"Nissui"* MSO Agar (MSO)

(Microbiological Test for Medical Ambience: MRSA)

Code	Form	Package	Storage	Shelf Life
06781	Solidified	30 Plates	Cool	2 Months
06780		100 Plates		

Directions

Clean Stamp is a prepared agar medium for Stamp method, on which agar stands up slightly above the rim of special Petri dish of 10 cm^2. Take off the cap of Clean Stamp and gently press the medium against the surface of specimen. The surface of agar is elastic enough to be pressed firmly against the specimen. Press against the different parts of the specimen when several kinds of Clean Stamps are tested simultaneously. Put the cap again immediately after pressing.
Incubate at 35°C for 24 - 48 hours.

Interpretations

MRSA: MRSA forms round yellow/cream color colonies with yellow surroundings around the colonies. Due to positive Egg Yolk reaction, white turbidity is developed inside the medium around the colonies while the surface has pearly luster.
In case of faint Egg Yolk reaction is observed, extend incubation to 48 hours, and read the reaction after colonies are removed.
Non MRSA: Mannitol non-fermenting (no yellow color change) and negative Egg Yolk reaction bacteria are not MRSA.

Storage

Do keep at 4 – 10°C. Do not freeze.

Formula

Components	In 1 L
Meat Extract	1.0 g
Peptone	10.0 g
Sodium Chloride	40.0 g
Mannitol	10.0 g
Sodium Pyruvate	2.0 g
Lithium Chloride	5.0 g
Oxacillin	6.0 mg
Colistin	10.0 mg
Amphotericin B	2.0 mg
Aztreonam	5.0 mg
Phenol Red	25.0 mg
Egg Yolk	30.0 ml
Agar	15.0 g
	pH 7.4 ± 0.1

NISSUI PHARMACEUTICAL CO., LTD.

06781-20100308 Koh SAN

Clean Stamp *"Nissui"*
SCD Agar (SCD)

(Microbiological Test for Environment: Viable Bacterial Count Soybean Casein Digest Agar)

Code	Form	Package	Storage	Shelf Life
06785	Solidified	30 Plates	Cool	5 Months
06784		100 Plates		

Directions

Clean Stamp is a prepared agar medium for Stamp method, on which agar stands up slightly above the rim of special Petri dish of 10 cm^2. Take off the cap of Clean Stamp and gently press the medium against the surface of specimen. The surface of agar is elastic enough to be pressed firmly against the specimen. Press against the different parts of the specimen when several kinds of Clean Stamps are tested simultaneously. Put the cap again immediately after pressing.
Incubate at 35°C for 24 - 48 hours.

Interpretations

Count all colonies grown on the surface.

Storage

Do keep at 4 – 10°C. Do not freeze.

Formula

Components	1 L
Peptone	15.0 g
Soya Peptone	5.0 g
Sodium Chloride	5.0 g
Agar	15.0 g

pH 7.2 ± 0.1

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

06785-20100308 Koh SAN

Clean Stamp *"Nissui"*

SCD Agar with Lecithin, Polysorbate 80 (SCDLP)

(Microbiological Test for Environment: Viable Bacterial Count Including inactivate agents)

Code	Form	Package	Storage	Shelf Life
06787	Solidified	30 Plates	Cool	5 Months
06786		100 Plates		

Directions

Clean Stamp is a prepared agar medium for Stamp method, on which agar stands up slightly above the rim of special Petri dish of 10 cm^2. Take off the cap of Clean Stamp and gently press the medium against the surface of specimen. The surface of agar is elastic enough to be pressed firmly against the specimen. Press against the different parts of the specimen when several kinds of Clean Stamps are tested simultaneously. Put the cap again immediately after pressing.

This Clean Stamp is designed to measure and detect the degree of pollution of the specimen which surface has been processed with chemicals or disinfectants. As lecithin and polysorbate 80 inactivate those chemicals and disinfectants absorbed into medium, more reliable results can be obtained.

Incubate at 35°C for 24 - 48 hours.

Interpretations

Count all colonies grown on the surface.

Storage

Do keep at 4 – 10°C. Do not freeze.

Formula

Components	In 1 L
Peptone	15.0 g
Soya Peptone	5.0 g
Sodium Chloride	5.0 g
Lecithin	1.0 g
Polysorbate 80	7.0 g
Agar	15.0 g
	pH 7.2 ± 0.1

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

06787-20100308 Koh SAN

Clean Stamp *"Nissui"*

Mannitol Salt Agar with Egg Yolk (MSEY)

(Microbiological Test for Medical Ambience: *Staphylococcus*)

Code	Form	Package	Storage	Shelf Life
06783	Solidified	30 Plates	Cool	5 Months
06782		100 Plates		

Directions

Clean Stamp is a prepared agar medium for Stamp method, on which agar stands up slightly above the rim of special Petri dish of 10 cm^2. Take off the cap of Clean Stamp and gently press the medium against the surface of specimen. The surface of agar is elastic enough to be pressed firmly against the specimen. Press against the different parts of the specimen when several kinds of Clean Stamps are tested simultaneously. Put the cap again immediately after pressing. Incubate at 35°C for 24 - 48 hours.

Interpretations

Staphylococcus aureus: *Staphylococcus aureus* forms round yellow/cream color colonies with yellow surroundings around the colonies. Due to positive Egg Yolk reaction, white turbidity is developed inside the medium around the colonies while the surface has pearly luster.
In case of faint Egg Yolk reaction is observed, extend incubation to 48 hours, and read the reaction after colonies are removed.
Other *Staphylococcus*: Other *Staphylococcus* forms small round white colonies with no color changes or red surroundings around the colonies, and do not show any positive Egg Yolk reaction.

Storage

Do keep at 4 – 10°C. Do not freeze.

Formula

Components	In 1 L
Beef Extract	1.0 g
Peptone	10.0 g
Sodium Chloride	75.0 g
Mannitol	10.0 g
Phenol Red	25.0 mg
Egg Yolk	30.0 ml
Agar	15.0 g
	pH 7.4 ± 0.1

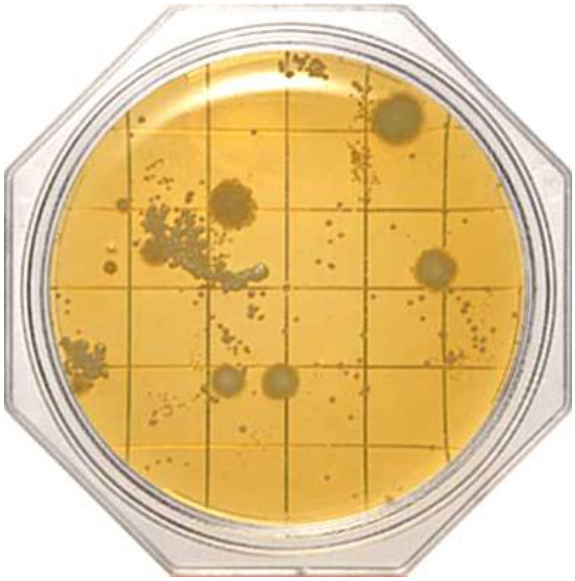
Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

06783-20100308 Koh SAN

Clean Stamp 25 *"Nissui"*
SCD Agar (SCD)

(Microbiological Test for Environment: Viable Bacterial Count, Soybean Casein Digest Agar)



Code	Form	Package	Storage	Shelf Life
06791	Solidified	30 Plates	Cool	5 Months
06790		150 Plates		

Directions

Clean Stamp 25 is a prepared agar medium for Stamp method, on which agar stands up slightly above the rim of special Petri dish of 25 cm^2. Take off the cap of Clean Stamp 25 and gently press the medium against the surface of specimen. The surface of agar is elastic enough to be pressed firmly against the specimen. Press against the different parts of the specimen when several kinds of Clean Stamps are tested simultaneously. Put the cap again immediately after pressing.
Incubate at 30 - 35°C for 2 – 5 days.

Interpretations

Count all colonies grown on the surface.

Remarks

Clean Stamp 25 SCD is made and prepared of Code 05516 Trypto-Soya Agar "Nissui" according to its directions, and aseptically distributed and solidified in the special Petri dishes having an inside diameter of 58 mm, outside diameter of 73 mm and height of 18 mm. One clean film bag contains 3 Clean Stamp 25 s connected in series.

Storage

Do keep at 4 – 10°C. Do not freeze.

Formula

Components	In 40.0 g/L
Peptone	15.0 g
Soya Peptone	5.0 g
Sodium Chloride	5.0 g
Agar	15.0 g
	pH 7.3 ± 0.2

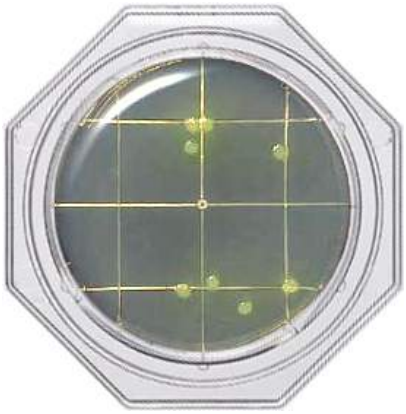
Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

06791-20100309 Koh SAN

Clean Stamp *"Nissui"* PSEU Agar (PSEU)

(Cetrimide Kanamycin sulfate Nalidixic Acid Agar, Microbiological Test for Environment: *Pseudomonas*)



Code	Form	Package	Storage	Shelf Life
06789	Solidified	30 Plates	Cool	5 Months

Directions

Clean Stamp is a prepared agar medium for Stamp method, on which agar stands up slightly above the rim of special Petri dish of 10 cm^2. Take off the cap of Clean Stamp and gently press the medium against the surface of specimen. The surface of agar is elastic enough to be pressed firmly against the specimen. Press against the different parts of the specimen when several kinds of Clean Stamps are tested simultaneously. Put the cap again immediately after pressing.
Incubate at 35°C for 24 - 48 hours.

Interpretations

Pseudomonas develops round dome shape or compressed colonies with yellow-greenish fluorescent on the medium.

Storage

Do keep at 4 – 10°C. Do not freeze.

Formula

Components	In 1 L
Peptone	20.0 g
Magnesium Chloride	3.0 g
Potassium Sulfate	10.0 g
Cetrimide	0.3 g
Kanamycin Sulfate	50.0 mg
Nalidixic acid	5.0 mg
Glycerin	10.0 ml
Agar	15.0 g
	pH 7.0 ± 0.1

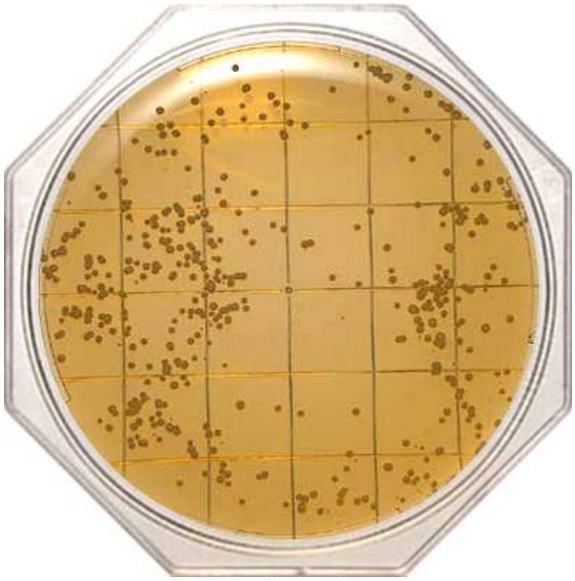
Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

06789-20100309 Koh SAN

Clean Stamp 25 *"Nissui"* SCDLP Agar (SCDLP)

(Microbiological Test for Environment: Viable Bacterial Count Including inactivate agents)



Code	Form	Package	Storage	Shelf Life
06793	Solidified	30 Plates	Cool	5 Months
06792		150 Plates		

Directions

Clean Stamp 25 SCDLP is a prepared agar medium for Stamp method, on which agar stands up slightly above the rim of special Petri dish of 25 cm^2. Take off the cap of Clean Stamp 25 SCDLP and gently press the medium against the surface of specimen. The surface of agar is elastic enough to be pressed firmly against the specimen. Press against the different parts of the specimen when several kinds of Clean Stamps are tested simultaneously. Put the cap again immediately after pressing.

This Clean Stamp 25 SCDLP is designed to measure and detect the degree of pollution of the specimen which surface has been processed with chemicals or disinfectants. As lecithin and polysorbate 80 inactivate those chemicals and disinfectants absorbed into medium, more reliable results can be obtained.

Incubate at 30 - 35°C for 2 – 5 days.

Interpretations

Count all colonies grown on the surface.

Remarks

Clean Stamp 25 SCDLP is made and prepared of Code 05516 Trypto-Soya Agar "Nissui" plus Lecithin and Polysorbate 80 according to its directions, and aseptically distributed and solidified in the special Petri dishes having an inside diameter of 58 mm, outside diameter of 73 mm and height of 18 mm. One clean film bag contains 3 Clean Stamp 25 s connected in series.

Storage

Do keep at 4 – 10°C. Do not freeze.

Formula

Components	In 1 L
Peptone	15.0 g
Soya Peptone	5.0 g
Sodium Chloride	5.0 g
Lecithin	1.0 g
Polysorbate 80	7.0 g
Agar	15.0 g
	pH 7.2 ± 0.1

Back to the Index

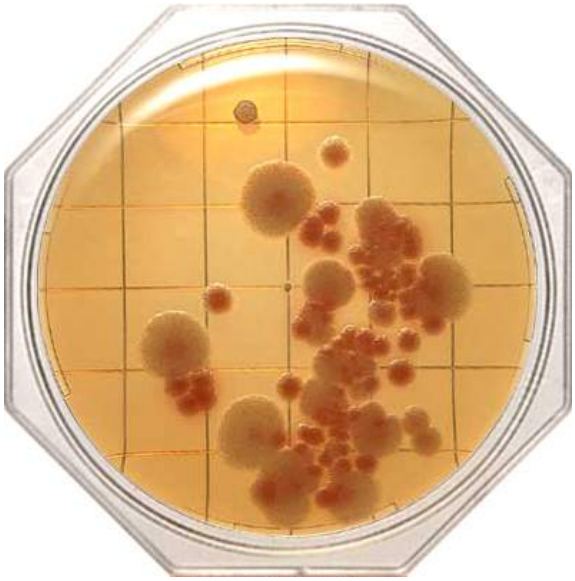
NISSUI PHARMACEUTICAL CO., LTD.

06793-20100309 Koh SAN

Clean Stamp 25 *"Nissui"*

Sabouraud Agar with Chloramphenicol (CPSB)

(Microbiological Test for Environment: Fungus)



Code	Form	Package	Storage	Shelf Life
06795	Solidified	30 Plates	Cool	5 Months
06794		150 Plates		

Directions

Clean Stamp 25 CPSB is a prepared agar medium for Stamp method, on which agar stands up slightly above the rim of special Petri dish of 25 cm^2. Take off the cap of Clean Stamp 25 CPSB and gently press the medium against the surface of specimen. The surface of agar is elastic enough to be pressed firmly against the specimen. Press against the different parts of the specimen when several kinds of Clean Stamps are tested simultaneously. Put the cap again immediately after pressing.
Incubate at 20 - 25°C for 2 – 5 days.

Interpretations

Count all colonies grown on the surface.

Remarks

Clean Stamp 25 CPSB is made and prepared of Code 05701 Sabouraud Agar "Nissui" plus Chloramphenicol according to its directions, and aseptically distributed and solidified in the special Petri dishes having an inside diameter of 58 mm, outside diameter of 73 mm and height of 18 mm. One clean film bag contains 3 Clean Stamp 25 s connected in series.

Storage

Do keep at 4 – 10°C. Do not freeze.

Formula

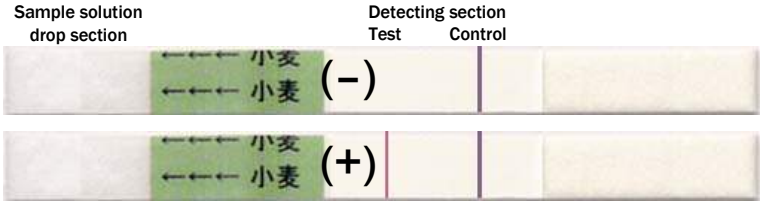
Components	In 1 L
Peptone	10.0 g
Dextrose	40.0 g
Chloramphenicol	50 mg
Agar	15.0 g
	pH 5.9 ± 0.2

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

06795-20100309 Koh SAITO

FASTKIT SLIM *"Nissui"*



Code		Package	Storage	Shelf Life
08630	EGG	20 Tests	Cool	1 Year
08631	MILK			
08632	WHEAT			
08633	BUCK WHEAT			
08634	PEANUT			

Introduction

The Food Sanitation Law obliges that 7 specified allergenic ingredients (egg, milk, wheat, buckwheat, peanut, shrimp and crab), which have a high risk of inducing food allergy, should be listed on food labels. The Food Sanitation Law also recommends that 18 ingredients, including soybeans, should be listed on the label in a way similar to the specified allergenic ingredients.
"Providing accurate information by listing of ingredients on food labels" and "preventing contamination with the ingredients which are not listed on the labels" are required to prevent food allergy. Moreover, as a measure to prevent contamination, routine management at the manufacturing sites, including verification of the process of washing the machines and devices used for production, is important.

Product Features

1) The simple one-step operation enables easy assessment, and anybody can perform the test easily.
2) Because there is no need for special test equipment and the test gives rapid results (in 15 minutes), it is best for routine management at the production sites.

Operating Procedures for Testing

(1) Leave the test strip in the aluminum pouch at room temperature and remove from the pouch immediately before use.
(2) With an oil-based marker pen, write the name of the test sample or the number of the subject under test on the absorbent pad of the test strip removed from the pouch.
(3) Place the test strip carefully on the flat stand and drop a 100 μL-portion of the sample solution onto the sample solution drop section. Otherwise, dispense a 150 μL portion of the sample solution into a test tube and attach the test strip to the test tube so that the sample solution drop section of the test strip is immersed in the sample solution.

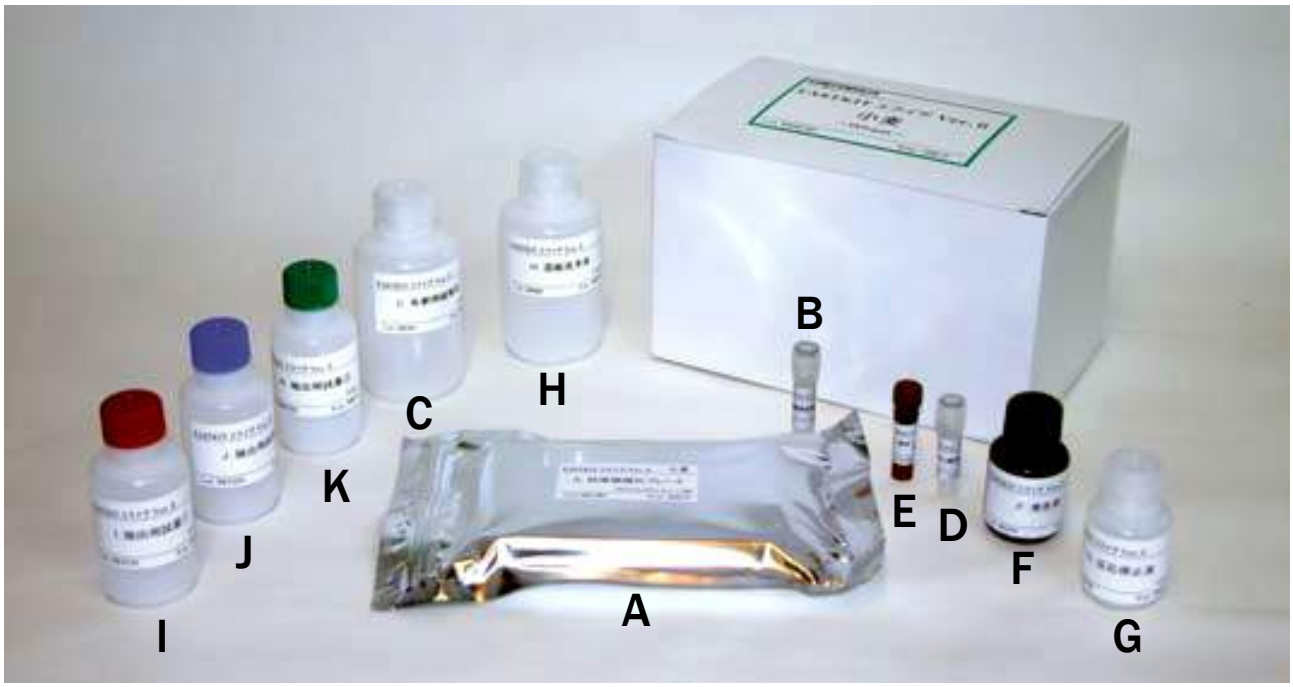
Formula

Contents	In 1 Kit
A: Test Strip	2 Tests × 10 Packs
B: Dilution Buffer	50 mL × 1 Bottle
C: Extraction Buffer (1/10 Concentration)	100 mL × 1 Bottle

Back to the Index

08630-20100421 Koh SAN

FASTKIT ELISA ver. II *"Nissui"*



Code		Package	Storage	Shelf Life
08615	EGG	96 Tests	Cool	6 Months
08616	MILK			
08617	WHEAT			
08618	BUCK WHEAT			
08619	PEANUT			
08606	SOYBEAN			

Introduction

Amendments to Food Sanitation Law in Japan have rendered it mandatory to label 5 specific raw food materials, (Eggs, Milk, Wheat, Buckwheat and Peanuts), identified to have a high possibility of triggering food allergies when foods contain more than a predetermined amount of μg/mL or μg/g of the specified raw ingredients, as of April 2002. In addition to clearly labeling the fore mentioned food products, screening of such products is becoming increasingly important in order to confirm the amount of proteins into contained in the raw ingredient or confirm the existence by a result of contamination due to the mixing of these raw materials with other foodstuffs and contamination on production lines.
FASTKIT ELISA Version II are the test kits for detecting proteins in foodstuffs by using enzyme-linked immunosorbent assay (ELISA).

Product Features

The FASTKIT ELISA Version II are able to accurately measure the amount of proteins in foods.

The FASTKIT ELISA Version II can simultaneously identify the presence of multiple proteins.
The FASTKIT ELISA Version II are widely applicable to samples ranging from raw ingredients to processed foods.

Formula

Contents	In 1 Kit
A: Antibody immobilized plate	96 Wells × 1
B: Standard solution (50 ng/mL)	1.8 mL × 1
C: Dilution buffer	100 mL × 1
D: Biotin-labeled antibody	150 μL × 1
E: Enzyme (peroxidase)-labeled streptavidin	150 μL × 1
F: Chromogenic substrate (TMB)	12 mL × 1
G: Stop solution	12 mL × 1
H: Concentrated washing solution	100 mL × 1
I: Extraction reagent ①	50 mL × 1
J: Extraction reagent for soybean ②	100 mL × 1
K: Extraction reagent ③	50 mL × 1

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

08615-20100422 Koh SAN

FA test
EIA-Crustacea *"Nissui"*

FA test
Extraction Solution *"Nissui"*

Code	Form	Package	Storage	Shelf Life
08621	-	96 Tests	Cool	1 Year
08622		-		6 Months

Introduction

Amendments to Food Sanitation Law in Japan have rendered it mandatory to label 5 specific raw food materials, (Eggs, Milk, Wheat, Buckwheat and Peanuts), identified to have a high possibility of triggering food allergies when foods contain more than a predetermined amount of μg/mL or μg/g of the specified raw ingredients, as of April 2002. Similarly, shrimps, prawns (except lobsters and crawfishes) and crabs is one of 20 raw food materials recommended to label, conforming to Food Sanitation Law. In addition to clearly labeling the above-mentioned food products, screening of such products is increasingly becoming important in order to confirm the amount of proteins contained in the raw ingredient, or in order to confirm the content due to the mixing of these raw materials with other foodstuffs and contamination on production lines.

FA test EIA-Crustacea *"Nissui"* is a test kit to determine crustacean-derived proteins in foodstuffs precisely, based on enzyme-linked immunosorbent assay (EIA) using a crustacean tropomyosin-specific monoclonal antibody.

Product Features

FA test EIA-Crustacea *"Nissui"* can determine crustacean-derived proteins in foodstuffs precisely.

FA test EIA-Crustacea *"Nissui"* is a high specific assay system due to a high specific monoclonal antibody.
FA test EIA-Crustacea *"Nissui"* can cover a wide measurement range of 0.3 to 20 ppm.
FA test EIA-Crustacea *"Nissui"* is widely applicable to samples ranging from raw ingredients to processed foods.

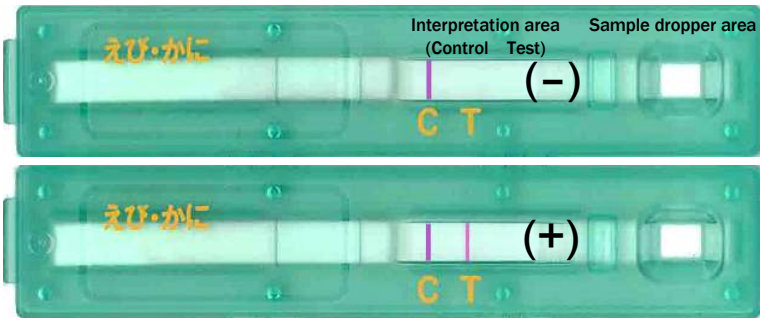
Formula

EIA-Crustacea Contents (08621)	In 1 Kit
1: Antibody fixed micro titer plate	1 Plate (96 wells)
2: Standard solution (50 ng/mL)	1.2 mL × 2 Vials
3: Dilution buffer	100 mL × 1 Bottle
4: Enzyme-labeled antibody	13 mL × 1 Vial
5: Enzyme-substrate solution	13 mL × 1 Vial
6: Stopping solution (1N H_2SO_4)	13 mL × 1 Vial
7: Washing Solution (×10)	100 mL × 1 Bottle
Extraction Solution Components (08622)	**In 1 Kit**
A: Extraction solution A (×20)	55 mL × 1 Bottle
B: Extraction solution B (×20)	55 mL × 1 Bottle
C: Extraction solution C (×20)	50 mL × 1 Bottle

Back to the Index

08621-20100423 Koh SAN

FA test Immunochromato-Crustacea *"Nissui"*



Code	Form	Package	Storage	Shelf Life
08623	-	20 Tests	Cool	1 Year

Introduction

Amendments to Food Sanitation Law in Japan have rendered it mandatory to label 5 specific raw food materials, (Eggs, Milk, Wheat, Buckwheat and Peanuts), identified to have a high possibility of triggering food allergies when foods contain more than a predetermined amount of μg/mL or μg/g of the specified raw ingredients, as of April 2002. Similarly, as of June 2008, shrimps, prawns (except lobsters and crawfishes) and crabs are added to Food Sanitation Law. In addition to clearly labeling the above-mentioned food products, screening of such products is increasingly becoming important in order to confirm the amount of proteins contained in the raw ingredient, or in order to confirm the content due to the mixing of these raw materials with other foodstuffs and contamination on production lines.
FA test Immunochromato-Crustacea is a detection kit for crustacean-derived protein in foodstuffs, based on a lateral flow system, with simple operation and results obtainable in a short period of time.

Product Features

FA test can detect crustacean-derived tropomyosin in foodstuffs.
FA test is a high specific assay system due to a high specific monoclonal antibody.
FA test can detect crustacean-derived tropomyosin in foodstuffs with simple and rapid operation.
FA test is widely applicable to samples ranging from raw ingredients to processed foods.

Formula

Contents	In 1 Kit
1: Test device	20 Tests
2: Condensed extraction buffer (10-fold condensate)	100 mL × 1 Bottle
3: Sample dilution buffer	100 mL × 1 Bottle

Back to the Index

08623-20100413 Koh SAN

Eagle's MEM *"Nissui"* ①

(With Kanamycin, Phenol Red, Without L-Glutamine and Sodium Bicarbonate, Autoclavable)

Code	Form	Package	Storage	Shelf Life
05900	Powder	100 g	Cool	1 Year
08160		9.4 g × 10 Packs		2 Years

Directions

Dissolve 9.4 g of the medium in distilled water and adjust the volume to 1,000 mL. Sterilize by autoclaving at 121 centigrade for 15 minutes. Cool the sterilized medium to room temperature and add a proper amount of sterile 10% sodium bicarbonate solution. (pH will be 7.1 – 7.4 at 37 centigrade in an atmosphere of 5% CO_2 in air by adding 12.5 – 22.0 mL of sodium bicarbonate solution) This mixture should be stopper tightly and stored in a cool, dark place. At the time of use, aseptically add 0.292 g of L-glutamine (sterilized) and the desired amount of serum.

Summary

Eagle's MEM "Nissui" 1 is a powdered medium prepared according to prescription published by Harry Eagle in 1959. Up to now, such media were not autoclavable because of decomposition or deterioration of the constituents, so that sterilization was performed by filtration using a membrane filter. Nissui Pharmaceutical Co., Ltd. has succeeded in preparing an autoclavable powder medium. This medium is specially manufactured so that constituents of the medium and growth of cells with this medium are not impaired. This medium has a growth-promoting effect for cells such as HeLa or L and other cell lines.

Storage and Expiration

Close tightly and store at 2-5°C in a dark and dry place. May be stored up to one (1) year.

Precautions

Do not use the product after its expiry date. Quality of the product is not warranted after its shelf life.
When if medium or reagent touched eyes or mouth, immediately wash with plenty of water, and consult a physician.
Any medium, reagent and materials must be sterilized by autoclaving or boiling water after use, and then disposed as industrial waste according to the law or regulations related to dispose.

Formula

Components	In 9.4 g/L
Sodium Chloride	6,800.0 mg
Potassium Chloride	400.0 mg
Calcium Chloride	200.0 mg
Magnesium Sulfate	93.5 mg
Sodium Dihydrogen Phosphate	115.0 mg
Glucose	1,000.0 mg
L-Arginine Hydrochloride	126.0 mg
L-Cystine Dihydrochloride, H_2O	31.4 mg
L-Tyrosine	36.0 mg
L-Histidine Hydrochloride, H_2O	42.0 mg
L-Isoleucine	52.0 mg
L-Leucine	52.0 mg
L-Lysine Hydrochloride	73.0 mg
L-Methionine	15.0 mg
L-Phenylalanine	32.0 mg
L-Threonine	48.0 mg
L-Tryptophan	10.0 mg
L-Valine	46.0 mg
Succinic Acid	75.0 mg
Sodium Succinate, $6H_2O$	100.0 mg
Choline Bitartrate	1.8 mg
Folic Acid	1.0 mg
Inositol	2.0 mg
Nicotinamide	1.0 mg
Calcium Pantothenate	1.0 mg
Pyridoxal Hydrochloride	1.0 mg
Riboflavin	0.1 mg
Thiamin Hydrochloride	1.0 mg
Biotin	0.02 mg
Kanamycin	60.0 mg (Titer)
Phenol Red	6.0 mg

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05900-20100310 Koh SAN

Eagle's MEM "Nissui" ②

(With Kanamycin, Without Phenol Red, L-Glutamine and Sodium Bicarbonate, Autoclavable)

Code	Form	Package	Storage	Shelf Life
05901	Powder	100 g	Cool	1 Year

Directions

Dissolve 9.4 g of the medium in distilled water and adjust the volume to 1,000 mL. Sterilize by autoclaving at 121 centigrade for 15 minutes. Cool the sterilized medium to room temperature and add a proper amount of sterile 10% sodium bicarbonate solution. (pH will be 7.1 – 7.4 at 37 centigrade in an atmosphere of 5% CO_2 in air by adding 12.5 – 22.0 mL of sodium bicarbonate solution) This mixture should be stopper tightly and stored in a cool, dark place. At the time of use, aseptically add 0.292 g of L-glutamine (sterilized) and the desired amount of serum.

Summary

Eagle's MEM "Nissui" 2 is a powdered medium prepared according to prescription published by Harry Eagle in 1959. Up to now, such media were not autoclavable because of decomposition or deterioration of the constituents, so that sterilization was performed by filtration using a membrane filter.
Nissui Pharmaceutical Co., Ltd. has succeeded in preparing an autoclavable-powdered medium. This medium is specially manufactured so that constituents of the medium and growth of cells with this medium are not impaired. This medium has a growth-promoting effect for cells such as HeLa or L and other cell lines

Storage and Expiration

Close tightly and store at 2-5°C in a dark and dry place. May be stored up to one (1) year.

Precautions

Do not use the product after its expiry date. Quality of the product is not warranted after its shelf life.
When if medium or reagent touched eyes or mouth, immediately wash with plenty of water, and consult a physician.
Any medium, reagent and materials must be sterilized by autoclaving or boiling water after use, and then disposed as industrial waste according to the law or regulations related to dispose.

Formula

Components	In 9.4 g/L
Sodium Chloride	6,800.0 mg
Potassium Chloride	400.0 mg
Calcium Chloride	200.0 mg
Magnesium Sulfate	93.5 mg
Sodium Dihydrogen Phosphate	115.0 mg
Glucose	1,000.0 mg
L-Arginine Hydrochloride	126.0 mg
L-Cystine Dihydrochloride, H_2O	31.4 mg
L-Tyrosine	36.0 mg
L-Histidine Hydrochloride, H_2O	42.0 mg
L-Isoleucine	52.0 mg
L-Leucine	52.0 mg
L-Lysine Hydrochloride	73.0 mg
L-Methionine	15.0 mg
L-Phenylalanine	32.0 mg
L-Threonine	48.0 mg
L-Tryptophan	10.0 mg
L-Valine	46.0 mg
Succinic Acid	75.0 mg
Sodium Succinate, $6H_2O$	100.0 mg
Choline Bitartrate	1.8 mg
Folic Acid	1.0 mg
Inositol	2.0 mg
Nicotinamide	1.0 mg
Calcium Pantothenate	1.0 mg
Pyridoxal Hydrochloride	1.0 mg
Riboflavin	0.1 mg
Thiamin Hydrochloride	1.0 mg
Biotin	0.02 mg
Kanamycin	60.0 mg (Titer)

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05901-20100310 Koh SAKAI

Eagle's MEM "Nissui" ③

(Without Kanamycin, Phenol Red, L-Glutamine and Sodium Bicarbonate, Autoclavable)

Code	Form	Package	Storage	Shelf Life
05902	Powder	100 g	Cool	1 Year

Directions

Dissolve 9.4 g of the medium in distilled water and adjust the volume to 1,000 mL. Sterilize by autoclaving at 121 centigrade for 15 minutes. Cool the sterilized medium to room temperature and add a proper amount of sterile 10% sodium bicarbonate solution. (pH will be 7.1 – 7.4 at 37 centigrade in an atmosphere of 5% CO_2 in air by adding 12.5 – 22.0 mL of sodium bicarbonate solution) This mixture should be stopper tightly and stored in a cool, dark place. At the time of use, aseptically add 0.292 g of L-glutamine (sterilized) and the desired amount of serum.

Summary

Eagle's MEM "Nissui" 3 is a powdered medium prepared according to prescription published by Harry Eagle in 1959. Up to now, such media were not autoclavable because of decomposition or deterioration of the constituents, so that sterilization was performed by filtration using a membrane filter.

Nissui Pharmaceutical Co., Ltd. has succeeded in preparing an autoclavable-powdered medium. This medium is specially manufactured so that constituents of the medium and growth of cells with this medium are not impaired. This medium has a growth-promoting effect for cells such as HeLa or L and other cell lines

Storage and Expiration

Close tightly and store at 2-5°C in a dark and dry place. May be stored up to one (1) year.

Precautions

Do not use the product after its expiry date. Quality of the product is not warranted after its shelf life.

When if medium or reagent touched eyes or mouth, immediately wash with plenty of water, and consult a physician.

Any medium, reagent and materials must be sterilized by autoclaving or boiling water after use, and then disposed as industrial waste according to the law or regulations related to dispose.

Formula

Components	In 9.4 g/L
Sodium Chloride	6,800.0 mg
Potassium Chloride	400.0 mg
Calcium Chloride	200.0 mg
Magnesium Sulfate	93.5 mg
Sodium Dihydrogen Phosphate	115.0 mg
Glucose	1,000.0 mg
L-Arginine Hydrochloride	126.0 mg
L-Cystine Dihydrochloride, H_2O	31.4 mg
L-Tyrosine	36.0 mg
L-Histidine Hydrochloride, H_2O	42.0 mg
L-Isoleucine	52.0 mg
L-Leucine	52.0 mg
L-Lysine Hydrochloride	73.0 mg
L-Methionine	15.0 mg
L-Phenylalanine	32.0 mg
L-Threonine	48.0 mg
L-Tryptophan	10.0 mg
L-Valine	46.0 mg
Succinic Acid	75.0 mg
Sodium Succinate, $6H_2O$	100.0 mg
Choline Bitartrate	1.8 mg
Folic Acid	1.0 mg
Inositol	2.0 mg
Nicotinamide	1.0 mg
Calcium Pantothenate	1.0 mg
Pyridoxal Hydrochloride	1.0 mg
Riboflavin	0.1 mg
Thiamin Hydrochloride	1.0 mg
Biotin	0.02 mg

Back to the Index

05902-20100311 Koh SAN

Eagle's MEM Amino Acids and Vitamins Medium *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05904	**Powder**	**20 g**	**Cool**	**1 Year**

Directions

Dissolve 0.88 g of the medium in distilled water and adjust the volume to 1,000 mL. When preparing 2 – 5 fold concentrated solution, heat to 37 °C and stir to dissolve. After dissolving completely, the medium is sterilized by filtration.

Summary

Eagle's MEM Amino Acids and Vitamins Medium "Nissui" is a powdered medium excluding inorganic salts and glucose prepared according to the minimum essential medium (MEM) published by Harry Eagle in 1959. This medium is used as a 2-5 fold concentrated solution for use with small number cell cultures, suspension cultures, cell colony formation by semisolid agar, plaque formation and others.

Storage and Expiration

Close tightly and store at 2-5 °C in a dark and dry place. May be stored up to one (1) year.

Precautions

Do not use the product after its expiry date. Quality of the product is not warranted after its shelf life.
When if medium or reagent touched eyes or mouth, immediately wash with plenty of water, and consult a physician.
Any medium, reagent and materials must be sterilized by autoclaving or boiling water after use, and then disposed as industrial/medical waste according to the law or regulations related to dispose.

Formula

Components	In 0.88 g/L
L-Arginine Hydrochloride	126.0 mg
L-Cystine Dihydrochloride	15.66 mg
L-Cystine Hydrochloride, H_2O	17.56 mg
L-Histidine Hydrochloride, H_2O	42.0 mg
L-Isoleucine	52.0 mg
L-Leucine	52.0 mg
L-Lysine Hydrochloride	73.0 mg
L-Methionine	15.0 mg
L-Phenylalanine	32.0 mg
L-Threonine	48.0 mg
L-Tryptophan	10.0 mg
L-Tyrosine, Disodium Salt	44.75 mg
L-Valine	46.0 mg
L-Glutamine	292.0 mg
Thiamin Hydrochloride	1.0 mg
Riboflavin	0.1 mg
Pyridoxal Hydrochloride	1.0 mg
Nicotinamide	1.0 mg
Calcium Pantothenate	1.0 mg
Folic Acid	1.0 mg
Inositol	2.0 mg
Choline Bitartrate	1.8 mg

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05904-20100311 Koh SAN

Dulbecco's PBS (-) *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05913	Powder	100 g	Cool	2 Years
08190		9.6 g × 10 Packs		
08192		96 g × 1 Pack		

Directions

Dissolve 9.6 g of the medium in distilled water and adjust the volume to 1,000 mL. It can be sterilized by autoclaving (121 °C, 15 minutes) or by membrane filtration.

Storage and Expiration

Close tightly and store at 2-5 °C in a dark and dry place. May be stored up to two (2) year.

Precautions

Do not use the product after its expiry date. Quality of the product is not warranted after its shelf life.
When if medium or reagent touched eyes or mouth, immediately wash with plenty of water, and consult a physician.
Any medium, reagent and materials must be sterilized by autoclaving or boiling water after use, and then disposed as industrial waste according to the law or regulations related to dispose.

Formula

Components	In 9.6 g/L
Sodium Chloride	8,000.0 mg
Potassium Chloride	200.0 mg
Disodium Phosphate	1,150.0 mg
Monopotassium Phosphate	200.0 mg

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05913-20100311 Koh SAV

Glutamine *"Nissui"*

Code	Form	Package	Storage	Shelf Life
05908	Powder	0.3 g	Cool	2 Years

Directions

Add 10 mL of sterile distilled water and dissolve completely. This solution is used as a supplement to L-glutamine-free autoclavable media, for example, Eagle's MEM "Nissui" 1.

Storage and Expiration

Store at 2-5°C in a dark and dry place. May be stored up to two (2) year.

Precautions

Do not use the product after its expiry date. Quality of the product is not warranted after its shelf life.
When if medium or reagent touched eyes or mouth, immediately wash with plenty of water, and consult a physician.
Any medium, reagent and materials must be sterilized by autoclaving or boiling water after use, and then disposed as industrial waste according to the law or regulations related to dispose.

Formula (in 9.6 g for 1 liter)

1 vial contains 0.3 g sterile and lyophilized L-glutamine.

Back to the Index

05908-20100311 Koh SAKAI

Dulbecco's Modified Eagle Medium *"Nissui"* ①

(With L-Glutamine, Without Sodium Bicarbonate)

Code	Form	Package	Storage	Shelf Life
05915	**Powder**	**100 g**	**Cool**	**1 Year**

Directions

Dissolve 10.0 g of the medium in distilled water and adjust the volume to 1,000 mL. Add a proper amount of sodium bicarbonate. (pH will be 7.1 – 7.4 at 37, in an atmosphere of 5% CO_2 in air by adding 1.0 – 1.8 g sodium bicarbonate.) Dissolve completely and immediately sterilize by filtration. To avoid excessively raising the pH level of the medium, it is advantageous to reduce the pH of the medium by gassing with CO_2 before filtration. This mixture should be stopped tightly and stored in a cool, dark place. At the time of use, aseptically add the desired amount of serum.

Summary

Dulbecco's Modified Eagle Medium "Nissui" is a powdered medium prepared on the basis of research by R. Dulbecco et al. and is specially manufactured. Compared with Eagle's MEM, this medium contains about twice the concentration of amino acids and about four times the concentration of vitamins. It contains Glycine and L-serine, which are nonessential amino acids; Pyruvate, which is important for glycolysis; and a very small amount of ferric ion. It is nutritious for the growth of cultured cells and is widely used for research on viruses, primary cell cultures, and single cell cultures.

Storage and Expiration

Close tightly and store at 2-5°C in a dark and dry place. May be stored up to one (1) year.

Precautions

Do not use the product after its expiry date. Quality of the product is not warranted after its shelf life.

When if medium or reagent touched eyes or mouth, immediately wash with plenty of water, and consult a physician.

Any medium, reagent and materials must be sterilized by autoclaving or boiling water after use, and then disposed as industrial waste according to the law or regulations related to dispose.

Formula

Components	In 10.0 g/L
Sodium Chloride	6,400.0 mg
Potassium Chloride	400.0 mg
Calcium Chloride	200.0 mg
Magnesium Sulfate	97.7 mg
Sodium Dihydrogen Phosphate, $2H_2O$	125.0 mg
Ferric Nitrate, 9 H_2O	0.1 mg
Glucose	1,000.0 mg
Sodium Pyruvate	110.0 mg
L-Arginine Hydrochloride	84.0 mg
L-Cystine Dihydrochloride	62.6 mg
Glycine	30.0 mg
L-Histidine Hydrochloride, H_2O	42.0 mg
L-Isoleucine	104.8 mg
L-Leucine	104.8 mg
L-Lysine Hydrochloride	146.2 mg
L-Methionine	30.0 mg
L-Phenylalanine	66.0 mg
L-Serine	42.0 mg
L-Threonine	95.2 mg
L-Tryptophan	16.0 mg
L-Tyrosine, Disodium Salt	89.5 mg
L-Valine	93.6 mg
Choline Bitartrate	7.2 mg
Folic Acid	4.0 mg
Nicotinamide	4.0 mg
Calcium Pantothenate	4.0 mg
Pyridoxal Hydrochloride	4.0 mg
Riboflavin	0.4 mg
Thiamin Hydrochloride	4.0 mg
Inositol	7.2 mg
Phenol Red	5.0 mg
L-Glutamine	584.0 mg

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05915-20100310 Koh SAKAI

Dulbecco's Modified Eagle Medium *"Nissui"* ②

(Without L-Glutamine and Sodium Bicarbonate, Autoclavable)

Code	Form	Package	Storage	Shelf Life
05919	**Powder**	**100 g**	**Cool**	**1 Year**

Directions

Dissolve 10.0 g of the medium in distilled water and adjust the volume to 1,000 mL. After stirring on a magnetic stirrer for about 30 minutes, sterilize by autoclaving at 121°C for 15 minutes. Cool the sterilized medium to room temperature and add a roper amount of sterile 10% sodium bicarbonate solution. (pH will be 7.1 – 7.4 at 37°C in an atmosphere of 5% CO_2 in air by adding 12-20 mL of sodium bicarbonate solution.) This mixture should be stopped tightly and stored in a cool, dark place. At the time of use, aseptically add 0.584 g L-glutamine (sterilized) and the desired amount of serum.

Summary

Dulbecco's Modified Eagle Medium "Nissui"② is a powdered medium prepared according to research by R. Dulbecco et al. Up to now, such media were not autoclavable because of decomposition or deterioration of the constituents, so that sterilization was accomplished by filtration using a membrane filter. Nissui Pharmaceutical Co., Ltd. Succeeded in preparing an autoclavable powdered medium. This medium is specially manufactured so that constituents of the medium and growth of cells with this medium are not impaired. Compared with Eagle's MEM, this medium contains about twice the concentration of amino acids and about four times the concentration of vitamins. It contains Glycine and L-serine, which are nonessential amino acids; Pyruvate, which is important for glycolysis; and a very small amount of ferric ion. It is nutritious for the growth of cultured cells and is widely used for research on viruses, primary cell cultures, and single cell cultures.

Storage and Expiration

Close tightly and store at 2-5°C in a dark and dry place. May be stored up to one (1) year.

Precautions

Do not use the product after its expiry date. Quality of the product is not warranted after its shelf life.
When if medium or reagent touched eyes or mouth, immediately wash with plenty of water, and consult a physician.
Any medium, reagent and materials must be sterilized by autoclaving or boiling water after use, and then disposed as industrial waste according to the law or regulations related to dispose.

Formula

Components	In 9.5 g/L
Sodium Chloride	6,400.0 mg
Potassium Chloride	400.0 mg
Calcium Chloride	200.0 mg
Magnesium Sulfate	97.7 mg
Sodium Dihydrogen Phosphate	108.0 mg
Ferric Nitrate, 9 H_2O	0.1 mg
Glucose	1,000.0 mg
Sodium Pyruvate	110.0 mg
Succinic Acid	106.0 mg
Sodium Succinate, 6 H_2O	27.0 mg
L-Arginine Hydrochloride	84.0 mg
L-Cystine Dihydrochloride	70.3 mg
Glycine	30.0 mg
L-Histidine Hydrochloride, H_2O	42.0 mg
L-Isoleucine	104.8 mg
L-Leucine	104.8 mg
L-Lysine Hydrochloride	146.2 mg
L-Methionine	30.0 mg
L-Phenylalanine	66.0 mg
L-Serine	42.0 mg
L-Threonine	95.2 mg
L-Tryptophan	16.0 mg
L-Tyrosine, Disodium Salt	89.5 mg
L-Valine	93.6 mg
Choline Bitartrate	7.2 mg
Folic Acid	4.0 mg
Nicotinamide	4.0 mg
Calcium Pantothenate	4.0 mg
Pyridoxal Hydrochloride	4.0 mg
Riboflavin	0.4 mg
Thiamin Hydrochloride	4.0 mg
Inositol	7.2 mg
Phenol Red	5.0 mg

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05919-20100310 Koh SAKAI

SFM-101 *"Nissui"*

Code	Package	Storage	Shelf Life
05963	Basal medium 12.5 g Supplement A 10 mL (Lyophilized) Supplement B 5 mL	Cool	1 Year

Directions

Completely dissolve the entire contents of the basal medium (12.5 g) in approximately 900 mL of distilled water. Reconstitute Supplement A with 10 mL of distilled water, whereas Supplement B is ready to use as is. Add both Supplement A and Supplement B into the basal medium and add sodium bicarbonate to the medium. If 1.0 – 1.5 g of sodium bicarbonate is added to one liter of the final medium, the pH of the medium at 37 °C, 5% CO_2 will be 7.1 – 7.4. Add distilled water to bring the total volume of the medium to 1,000 mL. After thorough mixing, immediately sterilize the final medium by membrane filtration. Keep prepared medium at 2 - 10 °C before use.

Storage and Expiration

Close tightly and store at 2-5 °C in a dark and dry place. Shelf life of the product is one (1) year after manufacturing.

Precautions

Use a low protein adsorption filter to prevent the protein (Insulin and Transferrin) from being adsorbed on the filter.
Store reconstituted Supplement A below -20 °C, if it its not used at once. However, avoid repeated freezing and thawing.
Prepared medium should be used within two months.

Summary

SFM-101 is a serum-free medium developed by Nissui Pharmaceutical Co., Ltd. and is highly effective for both cell growth and the production of antibodies using mouse hybridomas. SFM-eliminated the problems caused by differences in batches of fetal calf serum, etc. And because it contains a considerably lower concentration of protein than media with serum, it allows easier collection and purification of cell products (monoclonal antibodies and physiologically active substances).

Formula

Basal Medium Components	In 12.5 g/L
Sodium Chloride	6,000.0 mg
Potassium Chloride	400.0 mg
Sodium Dihydrogen Phosphate, $2H_2O$	75.0 mg
Disodium Phosphate, $2H_2O$	502.0 mg
Calcium Chloride	100.0 mg
Calcium Nitrate, $4H_2O$	50.4 mg
Magnesium Sulfate	71.0 mg
Sodium Selenite	0.002 mg
L-Arginine	100.0 mg
L-Arginine Hydrochloride	78.0 mg
L-Asparagine, H_2O	43.4 mg
L-Asparatic Acid	10.0 mg
L-Cysteine Hydrochloride, H_2O	15.7 mg
L-Cysteine Dihydrochloride	32.5 mg
L-Glutamic Acid	10.0 mg
L-Glutamine	600.0 mg
Glycine	10.0 mg
L-Histidine	7.5 mg
L-Histidine Hydrochloride, H_2O	21.0 mg
L-Hydroxyproline	10.0 mg
L-Isoleucine	51.0 mg
L-Leucine	51.0 mg
L-Lysine Hydrochloride	56.5 mg
L-Methionine	15.0 mg
L-Phenylalanine	23.5 mg
L-Proline	15.0 mg
L-Serine	30.0 mg
L-Threonine	49.0 mg
L-Tyrosine	28.0 mg
L-Tryptophan	7.5 mg
L-Valine	48.0 mg
p-Aminobenzoic Acid	0.5 mg
Biotin	0.2 mg
Choline Bitartrate	0.9 mg
Choline Chloride	26.5 mg
Folic Acid	1.0 mg
Inositol	18.5 mg
Nicotinamide	1.0 mg
Calcium Pantothenate	0.6 mg
Pyridoxal Hydrochloride	0.5 mg
Pyridoxine Hydrochloride	0.5 mg
Riboflavin	0.15 mg
Thiamin Hydrochloride	1.0 mg
Cyanocobalamin	0.004 mg
Glucose	2,000.0 mg
Sodium Pyruvate	110.0 mg
Succnic Acid	37.5 mg
Sodium Succinate	50.0 mg
Hypozanthine	0.025 mg
Thymidine	0.013 mg
Glutathione	0.5 mg
Putrescine Hydrochloride	0.013 mg
Dihydroxyethilglycine	1,800.0 mg
Phenol Red, Sodium Salt	5.0 mg
Supplement A Components	In 10 mL/L
Insulin (Bovine)	10.0 mg
Transferrin	10.0 mg
Supplement B Components	In 5 mL/L
Monoethanolamine	20.0 mg

Back to the Index

05963-20100310 Koh SAN

RPMI 1640 Medium "Nissui" ①

(Without Sodium Bicarbonate)

Code	Form	Package	Storage	Shelf Life
05911	Powder	100 g	Cool	1 Year

Directions

Dissolve 10.4 g of the medium in distilled water and adjust the volume to 1,000 mL. When there is difficulty dissolving the powder, the solution may be acidified to about pH 6.0 with dry ice or CO_2 gas. Add a proper amount of sodium bicarbonate. (pH will be 7.1 – 7.4 at 37 °C, in an atmosphere of 5% CO_2 in air by adding 1.0 – 1.8 g sodium bicarbonate.) Aseptically add the desire amount of serum.

Summary

RPMI 1640 Medium "Nissui" 1 is a powdered medium prepared according to the prescription developed by George E. Moore, former director of Roswell Park Memorial Institute. This medium is developed for suspension culture.

Storage and Expiration

Close tightly and store at 2-5 °C in a dark and dry place. May be stored up to one (1) year.

Precautions

Do not use the product after its expiry date. Quality of the product is not warranted after its shelf life.

When if medium or reagent touched eyes or mouth, immediately wash with plenty of water, and consult a physician.

Any medium, reagent and materials must be sterilized by autoclaving or boiling water after use, and then disposed as industrial waste according to the law or regulations related to dispose.

Formula

Components	In 10.4 g/L
L-Arginine	200.0 mg
L-Asparagine, H_2O	56.8 mg
L-Asparatic Acid	20.0 mg
L-Cystine Dihydrochloride	65.0 mg
L-Glutamic Acid	20.0 mg
Glutathione	1.0 mg
Glycine	10.0 mg
L-Histidine	15.0 mg
L-Hydroxyproline	20.0 mg
L-Isoleucine	50.0 mg
L-Leucine	50.0 mg
L-Lysine Hydrochloride	40.0 mg
L-Methionine	15.0 mg
L-Phenylalanine	15.0 mg
L-Proline	20.0 mg
L-Serine	30.0 mg
L-Threonine	20.0 mg
L-Tryptophan	5.0 mg
L-Tyrosine	20.0 mg
L-Valine	20.0 mg
Biotin	0.2 mg
Calcium Pantothenate	0.25 mg
Choline Chloride	3.0 mg
Folic Acid	1.0 mg
Inositol	35.0 mg
Nicotinamide	1.0 mg
p-Aminobenzoic Acid	1.0 mg
Pyridoxine Hydrochloride	1.0 mg
Riboflavin	0.2 mg
Thiamin Hydrochloride	1.0 mg
Cyanocobalamin	0.005 mg
Sodium Chloride	6,000.0 mg
Potassium Chloride	400.0 mg
Calcium Nitrate	69.5 mg
Disodium Phosphate	801.0 mg
Magnesium Sulfate	48.8 mg
Glucose	2,000.0 mg
L-Glutamine	300.0 mg
Phenol Red	5.0 mg

NISSUI PHARMACEUTICAL CO., LTD.

05915-20100310 Koh SAI

RPMI 1640 Medium "Nissui" ②

(Without L-Glutamine and Sodium Bicarbonate, Autoclavable)

Code	Form	Package	Storage	Shelf Life
05918	Powder	100 g	Cool	1 Year

Directions

Dissolve 10.2 g of the medium in distilled water and adjust the volume to 1,000 mL. Sterilize by autoclaving at 121°C for 15 minutes. Cool the sterilized medium to room temperature and add a proper amount of sterile 10% sodium bicarbonate. (pH will be 7.1 – 7.4 at 37°C, in an atmosphere of 5% CO_2 in air by adding 18 – 30 mL of sodium bicarbonate solution.) Aseptically add 0.3 g L-glutamine and the desire amount or serum.

Summary

RPMI 1640 is a medium for suspension culture investigated by George E. Moore, former director of Roswell Park Memorial Institute. Up to now, such media were not autoclavable because of decomposition or deterioration of the constituents, so that sterilization had been performed by filtration using a membrane filter. RPMI 1640 Medium "Nissui" 2 is an autoclavable-powdered medium specially manufactured to overcome the difficulties associated with filter-sterilized media, such as contamination by Mycoplasma. This medium has growth promoting effect to primary cultures of mouse and human leukemia cells, various kinds of cell lines and KATO-III cells.

Storage and Expiration

Close tightly and store at 2-5°C in a dark and dry place. May be stored up to one (1) year.

Precautions

Do not use the product after its expiry date. Quality of the product is not warranted after its shelf life.

When if medium or reagent touched eyes or mouth, immediately wash with plenty of water, and consult a physician.

Any medium, reagent and materials must be sterilized by autoclaving or boiling water after use, and then disposed as industrial waste according to the law or regulations related to dispose.

Formula

Components	In 10.2 g/L
L-Arginine Hydrochloride	240.0 mg
L-Asparagine, H_2O	56.8 mg
L-Asparatic Acid	20.0 mg
L-Cysteine Hydrochloride, H_2O	72.9 mg
L-Glutamic Acid	20.0 mg
Succinic Acid	46.0 mg
Sodium Succinate, $6H_2O$	164.0 mg
Glutathione	1.0 mg
Glycine	10.0 mg
L-Histidine Hydrochloride, H_2O	20.3 mg
L-Hydroxyproline	20.0 mg
L-Isoleucine	50.0 mg
L-Leucine	50.0 mg
L-Lysine Hydrochloride	40.0 mg
L-Methionine	15.0 mg
L-Phenylalanine	15.0 mg
L-Proline	20.0 mg
L-Serine	30.0 mg
L-Threonine	20.0 mg
L-Tryptophan	5.0 mg
L-Tyrosine	20.0 mg
L-Valine	20.0 mg
Biotin	0.2 mg
Calcium Pantothenate	0.25 mg
Choline Chloride	3.0 mg
Folic Acid	1.0 mg
Inositol	35.0 mg
Nicotinamide	1.0 mg
p-Aminobenzoic Acid	1.0 mg
Pyridoxine Hydrochloride	1.0 mg
Riboflavin	0.2 mg
Thiamin Hydrochloride	1.0 mg
Cyanocobalamin	0.005 mg
Sodium Chloride	6,000.0 mg
Potassium Chloride	400.0 mg
Calcium Nitrate	69.5 mg
Monosodium Phosphate	677.0 mg
Magnesium Sulfate	48.8 mg
Glucose	2,000.0 mg
Phenol Red	5.0 mg

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05918-20100310 Koh SAN

ES Medium "Nissui"

(With Kanamycin, Without L-Glutamine and Sodium Bicarbonate, Autoclavable)

Code	Form	Package	Storage	Shelf Life
05971	Powder	100 g	Cool	1 Year

Directions

Dissolve 9.7 g of the medium in distilled water and adjust the volume to 1,000 mL. Sterilize by autoclaving at 121 °C for 15 minutes. Cool the sterilized medium to room temperature and add a proper amount of sterile 10% sodium bicarbonate. (pH will be 7.1 – 7.4 at 37 °C, in an atmosphere of 5% CO_2 in air by adding 12.5 – 22.0 mL of sodium bicarbonate solution.) This mixture should be stopped tightly and store in a cool dark place. At the time of use, aseptically add 0.292 g L-glutamine (sterilized) and the desired amount of serum.

Summary

ES medium "Nissui" is a powdered medium prepared on the basis of the prescription published by H. Koyama et al. In this medium, Eagle's MEM is supplemented by seven amino acids, sodium Pyruvate and Cyanocobalamin, and the medium is autoclavable similar to Eagle' MEM "Nissui".

Storage and Expiration

Close tightly and store at 2-5 °C in a dark, dry place. May be stored up to one (1) year.

Precautions

Do not use the product after its expiry date. Quality of the product is not warranted after its shelf life.

When if medium or reagent touched eyes or mouth, immediately wash with plenty of water, and consult a physician.

Any medium, reagent and materials must be sterilized by autoclaving or boiling water after use, and then disposed as industrial waste according to the law or regulations related to dispose.

Formula

Components	In 9.7 g/L
Sodium Chloride	6,800.0 mg
Potassium Chloride	400.0 mg
Sodium Dihydrogen Phosphate	115.0 mg
Magnesium Sulfate	93.5 mg
Calcium Chloride	200.0 mg
Glucose	1,000.0 mg
L-Arginine Hydrochloride	126.0 mg
L-Asparagine, H_2O	30.0 mg
L-Asparatic Acid	27.0 mg
L-Alanine	18.0 mg
L-Cysteine Hydrochloride, H_2O	31.4 mg
L-Glutamic Acid	30.0 mg
Glycine	15.0 mg
L-Tyrosine	36.0 mg
L-Histidine Hydrochloride, H_2O	42.0 mg
L-Isoleucine	52.0 mg
L-Leucine	52.0 mg
L-Lysine Hydrochloride	73.0 mg
L-Methionine	15.0 mg
L-Phenylalanine	32.0 mg
L-Proline	23.0 mg
L-Threonine	48.0 mg
L-Serine	21.0 mg
L-Tryptophan	10.0 mg
L-Valine	46.0 mg
Succinic Acid	75.0 mg
Sodium Succinate, 6 H_2O	100.0 mg
Choline Bitartrate	1.8 mg
Folic Acid	1.0 mg
Inositol	2.0 mg
Nicotinamide	1.0 mg
Calcium Pantothenate	1.0 mg
Pyridoxine Hydrochloride	1.0 mg
Riboflavin	0.1 mg
Thiamin Hydrochloride	1.0 mg
Biotin	0.02 mg
Sodium Pyruvate	110.0 mg
Cyanocobalamin	0.1 mg
Kanamycin	60.0 mg (Titer)
Phenol Red	6.0 mg

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05971-20100312 Koh SAN

Medium 199 *"Nissui"*

(Without Sodium Bicarbonate)

Code	Form	Package	Storage	Shelf Life
05909	**Powder**	**100 g**	**Cool**	**1 Year**

Directions

Dissolve 9.5 g of the medium in distilled water and adjust the volume to 1,000 mL. Don't heat over 37°C to dissolve. Add a proper amount of sodium bicarbonate. (pH will be 7.1 – 7.4 at 37°C, in an atmosphere of 5% CO_2 in air by adding 1.3 – 2.2 g sodium bicarbonate.) Dissolve completely and immediately sterilize by filtration. To avoid excessively raising the pH level of the medium, it is advantageous to reduce the pH of the medium by gassing with CO_2 before filtration. Aseptically add the desire amount of serum.

Summary

Medium 199 "Nissui" is a powdered medium prepared according to the synthetic medium published by Morgan, Morton and Parker in 1950 and contains Earle's BSS. This medium is one of the earliest reported synthetic media and was first developed to maintain chick embryo tissues. It contains various kinds of amino acids, vitamins, nucleic acid precursors and others. This medium cannot increase cells but is utilized to maintain cells in virus studies and to produce poliovaccine. With the addition of serum, it is a superior medium for primary cultures.

Storage and Expiration

Close tightly and store at 2-5°C in a dark, dry place. May be stored up to one (1) year.

Precautions

Do not use the product after its expiry date. Quality of the product is not warranted after its shelf life.

When if medium or reagent touched eyes or mouth, immediately wash with plenty of water, and consult a physician.

Any medium, reagent and materials must be sterilized by autoclaving or boiling water after use, and then disposed as industrial waste according to the law or regulations related to dispose.

Formula

Components	In 9.5 g/L
L-Arginine Hydrochloride	70.0 mg
L-Histidine Hydrochloride, H_2O	21.9 mg
L-Lysine Hydrochloride	70.0 mg
L-Tryptophan	10.0 mg
L-Phenylalanine	25.0 mg
L-Methionine	15.0 mg
L-Serine	25.0 mg
L-Threonine	30.0 mg
L-Leucine	60.0 mg
L-Isoleucine	20.0 mg
L-Valine	25.0 mg
L-Glutamic Acid	66.8 mg
L-Aspartic Acid	30.0 mg
L-Alanine	25.0 mg
L-Proline	40.0 mg
L-Hydroxyproline	10.0 mg
Glycine	50.0 mg
L-Glutamine	100.0 mg
L-Cystine	20.0 mg
L-Tyrosine	40.0 mg
L-Cysteine Hydrochloride, H_2O	0.11 mg
p-Aminobenzoic Acid	0.05 mg
Biotin	0.01 mg
Calcium Pantothenate	0.01 mg
Folic Acid	0.01 mg
Inositol	0.05 mg
Nicotinic acid	0.025 mg
Nicotinamide	0.025 mg
Pyridoxal Hydrochloride	0.025 mg
Pyridoxine Hydrochloride	0.025 mg
Riboflavin	0.01 mg
Thiamin Hydrochloride	0.01 mg
Vitamin A	0.1 mg
Ascorbic Acid	0.05 mg
α-Tocopherol Disodium Phosphate	0.01 mg
Calciferol	0.1 mg
Menadione	0.01 mg
Choline Bitartrate	0.9 mg
D-2-Deoxyribose	0.5 mg
Adenine	10.0 mg
Guanine Hydrochloride	0.3 mg
Hypoxanthine	0.3 mg
Thymine	0.3 mg
Uracil	0.3 mg
Xanthin	0.3 mg
Adenylic Acid	0.2 mg
D-Ribose	0.5 mg
Polysorbate 80	5.0 mg
Cholesterol	0.2 mg
Glutathione	0.05 mg
Sodium Acetate	50.0 mg
Adenosine Triphosphate, Disodium Salt	1.0 mg
Glucose	1,000.0 mg
Sodium Chloride	6,800.0 mg
Potassium Chloride	400.0 mg
Calcium Chloride	200.0 mg
Magnesium Sulfate	97.7 mg
Sodium Dihydrogen Phosphate	102.9 mg
Ferric Nitrate, $9H_2O$	0.72 mg
Phenol Red	6.0 mg

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05909-20100312 Koh

Ham's F12 Medium *"Nissui"*

(Without Sodium Bicarbonate)

Code	Form	Package	Storage	Shelf Life
05910	**Powder**	**100 g**	**Cool**	**1 Year**

Directions

Dissolve 10.6 g of the medium in distilled water and adjust the volume to 1,000 mL. Don't heat over 37 °C to dissolve. Add a proper amount of sodium bicarbonate. (pH will be 7.1 – 7.4 at 37 °C, in an atmosphere of 5% CO_2 in air by adding 1.2 – 2.0 g sodium bicarbonate.)
Sterilize by filtration immediately. To avoid excessively raising the pH level of the medium, it is advantageous to reduce the pH of the medium by gassing with CO_2 before filtration.
Rehydrated medium will keep 1-2 months when it is stored in a freezer. Aseptically add the desire amount of serum.

Summary

Ham's F12 Medium "Nissui" is a powdered medium prepared according to the prescription published by Richard G. Ham in 1965 and made by special manufacturing. This medium is recommended for proliferation of mammalian cells as clones, especially, Chinese Hamster cells. It is also recommended for primary cultures.

Storage and Expiration

Close tightly and store at 2-5 °C in a dark, dry place. May be stored up to one (1) year.

Precautions

Do not use the product after its expiry date. Quality of the product is not warranted after its shelf life.
When if medium or reagent touched eyes or mouth, immediately wash with plenty of water, and consult a physician.
Any medium, reagent and materials must be sterilized by autoclaving or boiling water after use, and then disposed as industrial waste according to the law or regulations related to dispose.

Formula

Components	In 10.6 g/L
Sodium Chloride	7,599.0 mg
Potassium Chloride	224.0 mg
Disodium Phosphate	142.0 mg
Copper Sulfate, $5H_2O$	0.0025 mg
Zinc Sulfate, $7H_2O$	0.863 mg
Ferrous Sulfate, $7H_2O$	0.834 mg
Magnesium Chloride	57.19 mg
Calcium Chloride	33.31 mg
Glucose	1,802.0 mg
L-Arginine Hydrochloride	211.0 mg
L-Alanine	8.91 mg
L-Asparagine, H_2O	15.01 mg
L-Aspartic Acid	13.31 mg
L-Cysteine Hydrochloride, H_2O	35.12 mg
L-Glutamic Acid	14.71 mg
L-Glutamine	146.0 mg
Glycine	7.51 mg
L-Histidine Hydrochloride, H_2O	20.96 mg
L-Isoleucine	3.94 mg
L-Leucine	13.12 mg
L-Lysine Hydrochloride	36.54 mg
L-Methionine	4.48 mg
L-Phenylalanine	4.96 mg
L-Proline	34.53 mg
L-Serine	10.51 mg
L-Threonine	11.91 mg
L-Tryptophan	2.04 mg
L-Tyrosine	5.44 mg
L-Valine	11.71 mg
Biotin	0.0073 mg
Choline Chloride	14.0 mg
Calcium Pantothenate	0.477 mg
Folic Acid	1.32 mg
Hypoxanthine	4.08 mg
Inositol	18.0 mg
Putrescine Dihydrochloride	0.161 mg
Pyridoxine Hydrochloride	0.062 mg
Riboflavin	0.038 mg
Sodium Pyruvate	110.0 mg
Thiamin Hydrochloride	0.337 mg
Thymidine	0.727 mg
Cyanocobalamin	1.36 mg
Nicotinamide	0.037 mg
Lipoic Acid	0.206 mg
Linoleic Acid	0.084 mg
Phenol Red	1.24 mg

Back to the Index

NISSUI PHARMACEUTICAL CO., LTD.

05910-20100312 Koh SAV

Hanks' Solution *"Nissui"* ①

(Without Sodium Bicarbonate)

Code	Form	Package	Storage	Shelf Life
05905	**Powder**	**100 g**	**Cool**	**2 Years**

Directions

Dissolve 9.8 g of the medium in distilled water and adjust the volume to 1,000 mL. After dissolving completely, add a proper amount of sodium bicarbonate. (pH will be 7.3 – 7.6 at 37 °C, in an atmosphere of 5% CO_2 in air by adding 0.2 – 0.35 g sodium bicarbonate.) Sterilize by filtration immediately. To avoid excessively raising the pH level of the medium, it is advantageous to reduce the pH of the medium by gassing with CO_2 before filtration.

Storage and Expiration

Close tightly and store at 2-5 °C in a dark, dry place. May be stored up to two (2) year.

Formula

Components	In 9.8 g/L
Sodium Chloride	8,000.0 mg
Potassium Chloride	400.0 mg
Disodium Phosphate	47.9 mg
Potassium Dihydrogen Phosphate	60.0 mg
Magnesium Sulfate	48.8 mg
Magnesium Chloride	46.8 mg
Calcium Chloride	140.0 mg
Glucose	1,000.0 mg
Phenol Red	6.0 mg

Hanks' Solution *"Nissui"* ②

(Without Phenol Red and Sodium Bicarbonate)

Code	Form	Package	Storage	Shelf Life
05906	**Powder**	**100 g**	**Cool**	**2 Years**

Directions

Hanks' Solution "Nissui" 2 is a powdered BSS prepared with same composition as Hanks' Solution "Nissui" 1 without phenol red and is used for dialysis, experiments of immunology and others. Dissolve 9.8 g powders in distilled water and adjust the volume to 1,000 mL. After dissolving completely, add a proper amount of sodium bicarbonate. (pH will be 7.3 – 7.6 at 37 °C, in an atmosphere of 5% CO_2 in air by adding 0.2 – 0.35 g sodium bicarbonate.) Sterilize by filtration immediately. To avoid excessively raising the pH level of the medium, it is advantageous to reduce the pH of the medium by gassing with CO_2 before filtration.

Storage and Expiration

Close tightly and store at 2-5 °C in a dark, dry place. May be stored up to two (2) year.

Formula

Components	In 9.8 g/L
Sodium Chloride	8,000.0 mg
Potassium Chloride	400.0 mg
Disodium Phosphate	47.9 mg
Potassium Dihydrogen Phosphate	60.0 mg
Magnesium Sulfate	48.8 mg
Magnesium Chloride	46.8 mg
Calcium Chloride	140.0 mg
Glucose	1,000.0 mg

NISSUI PHARMACEUTICAL CO., LTD.

05905-20100312 Koh SAN